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THE EFFECTIVENESS OF THREE READING APPROACHES AND AN ORAL LANGUAGE STIMULATION PROGRAM WITH DISADVANTAGED CHILDREN IN THE PRIMARY GRADES--AN INTERIM REPORT AFTER ONE YEAR OF THE COOPERATIVE READING PROJECT.

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THE EFFECTIVENESS OF THREE APPROACHES TO TEACHING BEGINNING READING AND THE INFLUENCE OF AN ORAL LANGUAGE STIMULATION PROGRAM ON THE DEVELOPMENT OF DISADVANTAGED CHILDREN IS REPORTED IN THE FIRST-YEAR REPORT OF A 2-YEAR INTERVENTION STUDY. SUBJECTS WERE 608 FIRST-GRADE PUPILS FROM 12 ELEMENTARY SCHOOLS IN AN INNER-CITY AREA. THE THREE EXPERIMENTAL READING TREATMENTS WERE (1) THE INITIAL TEACHING ALPHABET (ITA) USED PHONETICALLY, (2) THE WORDS IN COLOR (WIC) PROGRAM, AND (3) A SUPPLEMENTED CONVENTIONAL READING PROGRAM (SCRP) USING A BASIC READER PLUS ADDITIONAL PHONICS MATERIAL. IN ADDITION TO THE READING TREATMENTS, SOME OF THE EXPERIMENTAL CLASSES RECEIVED AN ORAL STIMULATION PROGRAM IN THE FIRST YEAR UTILIZING LEVEL 1 OF THE PEABODY LANGUAGE DEVELOPMENT KITS (PLDK). NINE EXPERIMENTAL TREATMENT GROUPS AND ONE CONTROL GROUP WERE ESTABLISHED. PRETESTS AND POST-TESTS WERE ADMINISTERED. ANALYSIS OF VARIANCE, ORTHOGONAL COMPARISONS, AND T TESTS WERE USED TO ANALYZE THE DATA. THE RESULTS SUGGEST THAT THE PLDK PROGRAM ENHANCED PERFORMANCE OF DISADVANTAGED CHILDREN IN INTELLECTUAL GROWTH AND IN ORAL LANGUAGE DEVELOPMENT, BUT NOT IN SCHOOL ACHIEVEMENT. THE COMBINATION OF ITA AND PLDK WAS LESS EFFECTIVE THAN THE OTHER TREATMENTS. THE SCRP EXPERIMENTAL TREATMENT WAS SUPERIOR AT THE .90 LEVEL TO THE WIC AND ITA TREATMENTS, WITH GIRLS SUPERIOR TO BOYS IN ALL CASES. A BIBLIOGRAPHY AND APPENDIXES ARE INCLUDED. (BK)

IMRID

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Institute on Mental Retardation and Intellectual Development
George Peabody College for Teachers
Nashville, Tennessee
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PREFACE

This Cooperative Reading Project is a research effort involving three agencies: (1) the Institute on Mental Retardation and Intellectual Development (IMRID) of George Peabody College, (2) the Nashville Educational Improvement Project (NEIP), and (3) the Metropolitan Public Schools of Nashville-Davidson County (METRO). IMRID has been responsible for designing and conducting the study, the training of teachers, and the in-service programs during the intervention treatments. NEIP has furnished most of the financial support as one of its efforts to promote improved education for the disadvantaged children of Nashville. The Metropolitan Schools have provided the teachers and schools to make the study possible. Therefore, this project is truly a cooperative endeavor requiring the effort of all three agencies.

Research aspects of this investigation were supported jointly by Ford Foundation funds through the Nashville Education Improvement Project in large measure, and by grant #HD-973 from the National Institute of Child Health and Human Development which provides the basic funding for IMRID. The large service component was financed by the Nashville Metro Schools as part of its ongoing program.

A great number of people have contributed materially to the success of this project during 1965-66. The authors are especially indebted to Mrs. Carrie Denny and Mr. M. D. Neely, Supervisors in the Nashville Metro Schools, for their extensive assistance in all aspects of the project, especially in helping to integrate the experimental program smoothly into the schools. Mr. N. A. Crippens also deserves special recognition; as Director of the Nashville Educational Improvement Project he was not only primarily responsible for provision of financial support but also a major source of professional support.

We want to extend special thanks to Mrs. Otie Officer who supervised the teachers using the Initial Teaching Alphabet in teaching beginning reading, to Mrs. Annella Stevens who had a similar role in working with the teachers employing the Supplemented Conventional Reading Program, and to Mrs. Margaret Pino for supervising the teachers in their use of the lessons from the Peabody Language Development Kits.

We particularly wish to acknowledge the contribution of the large number of persons directly involved in the conduct of the project. The experimental teachers deserve major credit for the success of the project, as do their principals. A special note should be made of the contributions of teachers and principals in control schools who endured many of the inconveniences of project participation without the stimulation of an experimental program.

Finally, recognition is due the examiners without whom the important evaluation data on the project could not have been obtained. We are hopeful that the results of this project will provide new information to educators of sufficient import to warrant the extensive efforts of all these people.

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July, 1967

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CHAPTER I

INTRODUCTION

This research endeavor is a direct outgrowth of an earlier study, entitled the "Cooperative Language Development Project (CLDP)" conducted by the same three agencies as the present investigation; namely, the Institute on Mental Retardation and Intellectual Development of Peabody College, the Nashville Educational Improvement Project, and the Nashville-Davidson County Metropolitan Schools (Dunn & Mueller, 1966). In the CLDP, the efficacy of the Initial Teaching Alphabet (ITA) for teaching beginning reading, and of the lessons from the Peabody Language Development Kits for stimulating oral language, was investigated with disadvantaged children in the primary grades. Early findings indicated significant pupil growth for both approaches in contrast to comparable control pupils who were not provided with these two interventions. On the basis of these results, it might be concluded that a language program using ITA and PLDK enhances the school progress of disadvantaged children. However, the possibility that these results may have been caused, to some unknown degree, by the Hawthorne Effect cannot be discounted. The experimental teachers were given a number of incentives not available to the control teachers--including a small salary supplement, in-service training sessions, and some extra consultation, not to mention frequent visits to the experimental classes by the researchers, school officials, and visitors who praised the pupils' progress. The question arises as to whether ITA is significantly better, with disadvantaged children, than other approaches for beginning reading when teachers in each of the treatments are provided with extra support and incentives. The central pupose of the present study, entitled the "Cooperative Reading Project, (CRP)" was to deal with this question.

Purpose

The purpose of this monograph is to provide an interim report--after one year--on the Cooperative Reading Project. This study, which began in the Fall of 1965, is to continue over a three-year period. The treatments will extend over two years, plus a one year follow-up.*

With teacher incentives and support comparable, the central aim of the project was to examine the relative effectiveness of three approaches to the teaching of beginning reading and the influence of an oral language stimulation program on the development of disadvantaged children through their first three years in school. Performance in language development, intellectual growth, and academic achievement was measured.

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* An attempt will also be made to follow-up on pupil progress through the Junior High School level.

Subjects were enrolled in twelve elementary schools with nine schools carrying out experimental programs and three providing non-treatment control subjects. All these schools were located in low socio-economic areas of the inner city of Nashville, and the majority served mostly children of the Negro race.

The three experimental reading treatments were: (1) a highly synthetic basal approach using the 44 symbol Initial Teaching Alphabet (ITA), (2) the Words In Color (WIC) program which introduces each of the 47 speech sounds of the English language (as identified by the author) through the use of a distinct color, (3) and a Supplemented Conventional Reading Program (SCRP) combining a basic reader series plus a phonics program.

In addition to the reading treatments, two-thirds of the classes in the experimental treatments during the first year of the project, received an oral stimulation program utilizing Level #1 of the Peabody Language Development Kits (PLDK). This program consists of 180 thirty-minute daily lessons designed to stimulate oral language and verbal intelligence, and thus enhance school progress.

All experimental teachers participated at Peabody College in pre-service training at the outset of the experiment and then in regularly-scheduled, in-service training sessions throughout the school year. Each of the treatment groups had a consultant who visited the experimental classes regularly during the school year, and conducted the regularly-scheduled in-service meetings. For the extra time which was given to in-service meetings, the teachers in the experimental groups received a small stipend of $300 for the year. Supplementary instructional materials were furnished to all classrooms in the experimental treatment programs.

Research Design

Nine experimental treatment conditions were established. (Each of the nine consisted of three teachers who were committed to keeping their pupils through both of the first two years.) For each of the three approaches to beginning reading--ITA, WIC, SCRP--three oral language conditions were set up. Within each reading treatment, one-third of the children were to receive no PLDK, one-third were to receive one year of PLDK, and one-third were to receive two years of PLDK. This yielded the nine groups identified in Figure 1.

Groups 1, 4 and 7 (the without PLDK groups) received no special oral language stimulation treatment. Thus, they received solely one of the experimental reading approaches as the experimental treatment. Groups 2, 5 and 8 (or the one year PLDK groups) received, in addition to the experimental reading treatment, oral language stimulation for the first year of the project only based on Level #1 of the PLDK. Groups 3, 6 and 9 (or the two year PLDK groups) received, in addition to the experimental reading treatment, two years of PLDK oral language stimulation exercises: Level #1 during the first year of the project, and Level #2 during the second year.

Method of Teaching Beginning Reading

Duration of the Oral Language Stimulation Program	ITA	WIC	SCRP
Without PLDK	Group 1	Group 4	Group 7
One-year PLDK	Group 2	Group 5	Group 8
Two-year PLDK	Group 3	Group 6	Group 9

Figure 1. The basic research design for the Cooperative Reading Project

Besides the nine experimental groups, a control group was established. Teachers and pupils in the control group did not participate in any of the experimental treatments or incentives. The classes were only visited for pre-testing and for re-testing after each school year of the project.

In summary, the following 10 groups were constituted:

Group 1 ITA followed by a basal reader without PLDK
Group 2 ITA followed by a basal reader plus one year of PLDK
Group 3 ITA followed by a basal reader plus two years of PLDK
Group 4 WIC followed by a basal reader without PLDK
Group 5 WIC followed by a basal reader plus one year of PLDK
Group 6 WIC followed by a basal reader plus two years of PLDK
Group 7 Supplemented Conventional Reading Program without PLDK
Group 8 Supplemented Conventional Reading Program plus one year of PLDK
Group 9 Supplemented Conventional Reading Program plus two years of PLDK
Group 10 Control group (no experimental treatments or incentives)

Hypotheses

The following predictions were made.

1. Children learning to read through any of the three experimental reading approaches would show significantly greater gains in reading achievement than would children learning to read in a standard, primary-grade program.

2. Children receiving an oral language stimulation treatment in addition to the experimental reading program would show significantly greater gains in intellectual functioning, language development, and reading achievement than would children receiving no oral language stimulation.

3. Children receiving two years of oral language stimulation treatment would show significantly greater gains in intellectual functioning, language development and reading achievement than would children receiving it for only one year.

Analysis of Results

For the primary analyses, it was agreed that an analysis of variance (covariance when necessary) would be used to compare treatments among the groups. For the secondary analysis, multiple comparison techniques (orthogonal comparisons and/or $\underline{t}$ tests) were to be employed to contrast differences between subgroups. The .95 level of confidence was to be used throughout, with the .90 level cited since this was an intervention study.

Background

The educational retardation of the disadvantaged youngster has become an increasing concern in the past decade. These youngsters enter school at a disadvantage when compared with those from more favorable environments, and this initial disadvantage leads to progressive retardation as they move through the schools. Deutsch (1965), in discussing this progressive retardation, interprets the results as showing a cumulative effect in which small deficits early in school lead to inferior learning which in turn increases the magnitude of the deficit.

There is ample evidence that this progressive retardation exists in the area of reading achievement. Recent data on the reading achievement of 6,000 culturally disadvantaged primary age children in a large midwestern city indicate that, after two years of intensive efforts to improve achievement, only 35 percent of the youngsters were reading at the appropriate level (Shepard, 1962). Studies by Sexton (1961), Edwards and Wilson (1961), Campbell and Coleman (1966), and Duetsch (1964) provide further indications that reading retardation is conspicuous for its frequency among disadvantaged children.

Many reading programs have been published during the last decade, but those based on the analytic method are the most widely used (Stewart, 1957; Staiger, 1958; Sheldon, 1965). This approach is based on the belief that children should be taught whole words, and then, through various analytic techniques, the recognition of letters and sounds that they represent. The assumptions for this type of program are that: (1) the youngster has had a rich language experience background thus assuring that the vocabulary introduced in the first year reading materials is known and used by the youngster in listening and speaking; (2) since he is already familiar with the needed vocabulary, the child will readily learn to recognize the graphic representations of those words when presented in a carefully-controlled manner; and (3) having mastered a minimum sight vocabulary, the child is ready to be gradually introduced to word analysis where perception of details in word construction and the relationship of the whole to its parts is examined (Heilman, 1961). It is possible that the disadvantaged child does not have the characteristics necessary to begin reading in this manner. The following section reviews some of the factors concerning the disadvantaged youngster which are related to how he might best be taught to read.

Language Development of the Culturally Disadvantaged Child

The limited language development in standard English of these children has its roots in the environment in which they live. In general, their social and economic restrictions produce a setting which offers the child from the slum meager experiences to help him adjust successfully to the demands and expectations of the school (Goldberg, 1963). The overcrowded living conditions present a source of constant noise and confusion which can retard the child's ability to attend to and discriminate among speech sounds. The same conditions promote an atmosphere of enforced silence and general non-communication with adult authority figures which retard the child's language development. The scarcity in the home of school-related objects, especially of pencils, scribbling paper, books, puzzles, and toys probably has its debilitating effect. It also serves to illustrate that the stimulation of disadvantaged children as compared with middle-class children is limited (Deutsch, 1963).

Reissman's description (1962) of the characterisitcs of the culturally disadvantaged individual includes (1) deficiency in auditory attention and interpretation skills, (2) ineffective reading skills, and (3) a deficiency in the communication skills in general. Thus the child is not in an environment that lacks objects and experiences to stimulate his language development, but the individuals with whom he lives and upon whom he models his behavior further handicap his language development because of their own language deficits (Mazurkiewicz, 1960; Ziller, 1964).

Thomas (1961) has indicated that the restricted vocabulary of young disadvantaged children is particularly illustrative of their meager language experience. In Black's (1965, p. 466) article on the characteristics of disadvantaged children, he quotes Figurel's findings that "less than half of the words in the vocabulary of preschool children are known by second grade children in slum areas." Illustrating this was the discovery that "common name words, such as sink, chimney, honey, beef, and sandwich are learned by culturally disadvantaged children one or two years later than by other children" (Black, 1965, p. 466).

In the same article, Metfessel's conclusion about the causes and results of cultural deprivation (Black, 1965, pp. 466-67) are summarized as follows. First, disadvantaged children generally understand more English language than they use. Second, the vocabulary and speech patterns used by disadvantaged children are not representative of the school culture. Third, disadvantaged children are frequently handicapped in their language development because they do not perceive that the same object may have more than one name. Fourth, disadvantaged children generally use less complex sentence structures in their speech patterns than do their middle-class counterpart. Fifth, disadvantaged children appear to learn less from what they hear than do middle-class children.

Learning Characteristics of the Culturally Disadvantaged Child

In addition to the deficit in language development, the culturally disadvantaged child exhibits certain other learning patterns and characterisitcs. Some of these patterns can be considered learning strengths upon which proponents of various teaching strategies may build. Other patterns or characteristics are to be considered learning weaknesses or needs which proponents of various teaching strategies try to overcome.

The learning strengths and needs which are discussed in the following pages by no means exhaust their respective categories in relation to the young culturally disadvantaged child. However, the strengths and needs that are treated, are included because they appear to be pertinent to the child's progress in many school-related tasks, especially the tasks associated with learning to read.

Learning Strengths. There appear to be two areas in which the culturally disadvantaged child shows relative learning strengths. The first area, which is concerned with his effectiveness in verbal communication, will be discussed here in terms of his communication in an informal setting, and later, under the heading "Learning Weaknesses or Needs," in terms of his communication in the formal classroom setting.

First, although the culturally disadvantaged learner has a more limited speaking and listening vocabulary than his middle-class peers, he is not non-verbal. To assume that he is non-verbal because of his lack of verbal responsiveness in a formal classroom setting, is to make a "false" assumption (Olson & Larson, 1965, p. 262). On the contrary, Riessman (1963, p. 6) notes that the "educationally deprived child can be quite articulate in conversation with his peers," while Crosby (1963, p. 302) states that the culturally disadvantaged child's natural language is often dynamic and that he is quite facile in its use."

It seems clear then, that although the culturally disadvantaged child may be deficient in vocabulary and in the use of standard language patterns, he nevertheless has verbal ability. Therefore, with teaching strategies that provide verbal stimulation and offer guidance in the use of informal standard English, the culturally disadvantaged child can be expected to improve and expand his verbal abilities.

Second, culturally disadvantaged children show relative learning strength in visual-motor channels. Data on the mean IQ's of several hundred culturally disadvantaged children (Dunn & Mueller, 1966) indicate that these children may be classified as "dull normal" or "border-line" mental retardates (Heber, 1961, pp. 58-59; Ingram, 1953, p. 4). As a result of this classification, the psycholinguistic profiles of mental retardates (Smith, 1962; Mueller & Weaver, 1964) obtained in recent studies using the Illinois Test of Psycholinguistic Abilities (McCarthy & Kirk, 1961) become of considerable importance in suggesting the psycholinguistic strengths of culturally disadvantaged children. These profiles reveal a relative strength in visual-motor channels of communication. Inferences to be drawn from these studies suggest that teaching strategies should provide opportunities that will enable the young learner to capitalize on his ability to learn more readily through visual-motor avenues.

Learning Weaknesses. The learning needs of the culturally disadvantaged child entering first grade are numerous. The first of these to be discussed in this section is the child's need to establish a positive view of self in relation to school-related tasks.

Both Newton (1962) and Ziller (1964) indicate that early social models in the home affect the preschool orientation of the child toward one of the major school-related tasks, reading. "Acceptance of school-related tasks by the child," says Ziller (1964, p. 586), "probably depends on earlier social relationships and acceptance of self-orientation" modeled on the parent's interests and expectations. Newton (1962, p. 186) suggests that "when the learner 'translates' the expectations of the adult models into self-goals . . . (he) derives a functional level of aspiration."

Where there is "apathy as well as emotional and social maladjustment among parents," Della-Dora (1962, p. 468) concludes that "student self-concept and level of aspiration are generally low in relation to typical school centered activities." Since apathy and emotional and social maladjustment are characteristic of low socio-economic groups (Harrington, 1962; Hines, 1964; Humphrey, 1964; Myrdal, 1962) it is not surprising that the children of these groups "have characteristically low self-concepts which in turn adversely influence (their) school achievement," states Krugman (1961, p. 24).

A second learning need of the culturally disadvantaged child is the development of articulate communication in the formal classroom setting. Olson and Larson (1965) and Riessman (1963) report that culturally disadvantaged children are frequently unresponsive and seemingly inarticulate in the classroom, in contrast to their facile communication within their peer group. Crosby (1963, p. 302) notes that this unresponsiveness may result when a child finds his "natural vocabulary fails to communicate," in the classroom setting, and "he resolves his problem . . . by becoming quiet." Or, as Sharp (1963, p. 306) hypothesizes, the child may come to school "mute and unresponsive because from infancy his parents have demanded that he keep silent and out of sight." In either case, teaching strategies should be used that recognize the probable cause of the culturally disadvantaged child's unresponsiveness, and provide classroom situations that will encourage the child to communicate without fear of failure.

A third learning need clearly associated with the young culturally disadvantaged child is the improvement of his ability to discriminate among speech sounds (Mueller & Weaver, 1964; Smith, 1962). M. Deutsch (1963) and C. P. Deutsch (1964) found through experimentation that culturally disadvantaged children have inferior auditory discrimination for speech sounds. Harris and Serwer (1965) report that analysis of pretest results of approximately eleven hundred culturally disadvantaged children entering first grade showed that the group's mean score on a phonemes test fell at the first percentile of the national norms.

Durrell and Murphy (1953), Harris (1963), and Smith (1963) indicate that ability to discriminate among speech sounds is basic to progress in reading instruction. Christine and Christine (1964) showed that inability to discriminate speech sounds is related to reading retardation. It can be hypothesized then, that successful strategies for teaching reading to the culturally disadvantaged child should make ample provision for strengthening his discrimination of speech sounds early in the program.

A fourth learning need of the culturally disadvantaged child is to develop a pattern of attitudes toward achievement characteristic of his middle-class peers (Gray, 1962). While one set of social patterns may not be justified as being inherently superior to another, it appears desirable for the culturally disadvantaged child to acquire these motivational patterns in order to compete on even social and economic terms in our middle-class oriented society (Humphrey, 1964, Chapter 9).

Terrell, Durkin, and Wiesley (1959, p. 270) report that emphasis on achieving excellence in academic performance, of "learning for learning's sake," is less characteristic of children from lower class than from middle-class environments. Crosby (1963) and Riessman (1962) state that this view of learning is, in fact, the antithesis of the view of learning held by the disadvantaged child, who, like the adults in his culture, is motivated by the immediate "use value" of a given task.

Conclusions concerning the type of teaching strategies that should be employed with the culturally disadvantaged child are aimed at helping him develop attitudes toward achievement characteristic of his middle-class peers. Strategies, discussed in the literature, appear to emphasize one or the other of two points of view. The first viewpoint is characterized by an emphasis on teaching strategies in which the learner is given rewards in the form of concrete treats and social recognition by the teacher (Klaus & Gray, 1963). The assumption is made, that since the culturally disadvantaged child generally lacks the middle-class child's pre-school orientation for expecting a reward for performance, especially for task completion (Deutsch, 1963), he can best be expected to acquire this motivational pattern for beginning and completing a task if he is provided with a teaching strategy in which rewards are employed.

In contrast, proponents of teaching strategies represented by the second point of view stress the development of the middle-class motivational patterns through a de-emphasis on teacher given rewards. Taba (1964, pp. 137-58) states that "research on motivational patterns suggests the futility of emphasis on external rewards" and emphasizes the need for "stressing the kindling of curiosity and the opportunities for experiencing one's power over the materials." Ausubel (1963, p. 459) in his discussion of a teaching strategy for deprived pupils, makes the following judgments concerning the basis for motivating the learning of these culturally disadvantaged children:

> The development of cognitive drive or of intrinsic motivation for learning, that is the acquisition of knowledge as an end in itself or for its own sake, is, in my opinion, the most promising motivational strategy which we can adopt in relation to the culturally deprived child.

It is unclear at present whether teaching strategies based on one or the other of these two viewpoints are more appropriate for helping the culturally disadvantaged child develop the motivational patterns and attitudes toward achievement characteristic of his middle-class peers. It may be hypothesized, however, that by employing teaching strategies which focus on one or the other of these points of view, the school may be able to determine whether one is more appropriate than the other for meeting this learning need of the culturally disadvantaged child.

A fifth learning need of the young culturally disadvantaged child is the development of persistence for task completion. Gray (1962, p. 31) acknowledges that evidence relating to persistence is not clear-cut, but she states that "the review of studies of persistence by Feather (1962) seems to indicate that persistence may be specific to a given task rather than to a general trait, at least at early ages."

Since lack of persistence is not identifiable as a basic personality trait in the young learner, but appears to be task-related, we may expect this deficiency to be improved by planning school-related tasks that demand persistence to task completion.

Summary and Recent Developments

The deprived youngster is characterized by progressive educational retardation during his school years and his reading retardation compounds his problems in other areas. He usually comes to school without the characteristics considered necessary for learning to read in the typical basal reading program. He has a restricted vocabulary compared to middle-class youngsters, his ability to discriminate among speech sounds is poor, and he lacks the language skills needed to communicate in the school setting. This does not mean that he is not verbal in that his verbal communication is adequate in an informal setting with his peers, but his vocabulary and speech patterns are not representative of the school culture. He is relatively strong in the visual-motor channels when compared with his verbal skills.

In addition to these deficiencies the disadvantaged youngster doesn't have the level of aspiration and attitude toward achievement that is typical of the middle-class youngster. Learning for learning's sake is foreign to his environment and he does not appear to have the necessary persistence to carry out school tasks. To overcome these additudinal problems, two teaching strategies have been suggested. One proposes giving rewards in the form of concrete treats and social recognition, and the other proposes working for the development of intrinsic motivation. At this time there doesn't seem to be clear evidence to support either approach in lieu of the other, but Gray and Klaus (1965) found concrete and social reinforcement effective in increasing intelligence and language gains with pre-school deprived youngsters.

Apparently most programs for the deprived youngster which have aimed at increasing his achievement have been based on more of the same type program used with the middle-class youngster. Cohen (1967) feels that we must seek new programs utilizing new materials geared to changing quality rather than quantity. Some have sought to do this through a new format for basic readers such as the Bank Street Readers (Niemeyer, 1965) or the City Schools Reading Program by the Detroit Public Schools (Whipple, 1962). Both of these programs were designed for urban deprived youngsters, and feature a integrated society with vocabulary drawn from the language of the deprived youngster. Harris and Serwer (1966), in one of the USOE first grade reading studies, contrasted basal reader, basal reading with the phonovisual skills program, language experience, and language experience supplemented with audiovisual materials. At the end of one year, the basal reader program held a slight advantage. Dunn and Mueller (1966) investigated the efficacy of ITA and oral language stimulation with deprived youngsters, and the experimental treatments increased gains in reading achievement and language development. In this study, the oral language program social and concrete reinforcement was used to foster motivation. With the increased concern for the deprived youngsters, the next several years should see many new programs designed to overcome their difficulties.

CHAPTER II

METHOD

This chapter discusses, in more detail, the research method employed in the cooperative Reading Project. It includes information concerning the setting, subjects, treatments, classroom procedures, teachers, and evaluation instruments.

Setting

The Cooperative Reading Project is being conducted in schools which draw their pupils from lower socio-economic areas of the Nashville-Davidson County Metropolitan School System. In these areas a large percentage of the families would be considered underprivileged, socially and economically, by any standard. They are under-employed and ill-educated. Their children are more or less underfed and poorly clothed. Nashville-Davidson County like any other metropolis has a growing problem of slums and ghettoes. It has a school system of more than 100 elementary and secondary schools enrolling about 100,000 children and youth. The schools are integrated, but in practice many remain segregated due largely to housing patterns. Approximately one-third of the schools involved in the Cooperative Reading Project were undergoing a dramatic shift in racial balance. They were moving from a majority of Caucasian to a majority of Negro students. Many of the schools in the low socio-economic areas are overcrowded, though not so severely that double sessions have become necessary.

Although it was recognized that not all children enrolled in any given school located in a slum area could be described as disadvantaged, the nature of the project required that the experimental treatment be given to entire classrooms. Administrative personnel of the Metro Schools were asked to select those schools in which the large majority of children would be classified as disadvantaged. On the basis of these selections, 12 public elementary schools were asked to participate in the project. Nine of these schools were involved in the experimental treatment programs, three for each of the three experimental reading treatments. The other three schools were selected to provide control subjects for the study.

In assigning the reading treatment to the experimental schools, considerations were given to the size of the schools, the degree of racial integration, and also other aspects of school environment so as to counterbalance the effects of these variables. Nine first grade classes were selected for each of the three treatment groups. This made a total of 27 experimental classes and provided about 750 experimental subjects. About 150 first grade children were drawn from twelve first grade classes in the three control schools. This gave a total group of about 900 first grade children involved in the Cooperative Reading Project.

Subjects

Unfortunately several factors acted to reduce the size of the experimental sample. Due to limitations in terms of time and professional manpower, the project staff was able to obtain complete pre-treatment psychometric test data on only 838 subjects, 712 in the experimental classes and 126 in the control classes. This constituted the original subject pool or sample size. This sample pool was reduced further during the year due to children being transferred out of experimental schools, and at the end of the school year due to their not being available for posttesting. This left a total sample of 608 subjects--547 in the combined experimental groups and 61 in the control groups--which constituted the final subject pool.

Table 1 presents reference data (chronological age and initial IQ and language age) by treatment group. The data are presented separately for the original subject pool (children on whom complete pre-treatment data were obtained) and for the final subject pool (children on whom both complete pre-treatment and post-treatment data were obtained). As it may be observed from Table 1, the averages of CA, IQ and LA either of the total group or by treatment groups are about the same for the original subject pool and final subject pool. These children have an average initial IQ of about 87 points, 13 points below the national norm. Their average initial language age was five years and two months. This was over one year below the average for their chronological age. (Since boys and girls in the primary grades, in general, tend to be different in their intellectual functioning and language development, the reference data are presented separately for boys and girls, in Table 1, Appendix A).

Basic home information, particularly the educational level of the best educated parent, the housing conditions, and the income level confirmed that these children are so-called disadvantaged by their rating on the Peabody Cultural Opportunity Scale (see Table 2). Their families fell at the lower end of the socio-economic continuum. On the average, the best educated parent of these children had only two years of high school. The average number of persons per family was 6.83 which was larger than the national model of two parents with two to three children. The housing conditions of these families may appear somewhat better than expected. This was due to the many new city housing and the urban renewal projects in Nashville. Homes in these projects were rated as fair. However, 35 percent of the families still lived in a house or apartment rated as extremely or moderately poor.

These somewhat better housing conditions were offset by the low total family incomes. Forty-seven percent of these families earned less than $3,000.00 annually. Forty-three percent earned between $3,000 and $6,000. Only ten percent earned more than $6,000. The main wage earners of these families were employed mostly as household, personal, maintenance and community service workers, day laborers, or semi-skilled laborers. A few were employed as skilled laborers, clerical and sales workers. Very few were employed as professional, technical and managerial workers.

Table 1

Summary of Pretest Reference Data by Treatment Group

Treatment Group		Original Subject Pool				Final Subject Pool			
		N	CA	IQ[1]	LA*[2]	N	CA	IQ	LA*
ITA only	$\bar{X}$	81	74.94	89.85	65.42	72	74.81	90.07	65.26
	S		5.04	14.24	9.01		4.88	14.40	8.76
ITA plus PLDK	$\bar{X}$	164	74.41	85.63	60.33	128	74.04	87.09	61.29
	S		5.53	13.16	9.40		4.88	12.17	9.07
Total		245	74.59	87.03	62.01	200	74.32	88.16	62.72
			5.37	13.65	9.56		4.88	13.06	9.14
WIC only	$\bar{X}$	80	74.19	86.43	62.21	65	73.82	87.05	62.00
	S		3.78	15.78	11.38		3.54	10.02	9.85
WIC plus PLDK	$\bar{X}$	160	73.21	86.91	62.59	132	73.45	88.44	63.59
	S		4.78	15.03	11.32		4.01	13.75	10.92
Total		240	73.54	86.75	62.47	197	73.57	87.98	63.07
			4.42	15.25	11.32		3.86	12.64	10.58
SCRP only	$\bar{X}$	71	75.93	88.03	62.86	48	74.65	90.83	63.62
	S		5.65	15.16	9.35		3.50	14.82	8.61
SCRP plus PLDK	$\bar{X}$	156	75.91	87.85	62.79	102	75.45	87.70	64.01
	S		5.93	12.19	10.31		5.94	13.14	9.95
Total		227	75.92	87.90	62.81	150	75.19	88.70	63.89
			5.83	13.15	10.00		5.28	10.73	9.52
Control	$\bar{X}$	126	74.32	84.03	60.79	61	73.75	84.03	60.54
	S		6.10	12.50	9.40		4.17	12.04	7.68
Total	$\bar{X}$	838	74.61	86.74	62.18	608	74.24	87.82	62.90
	S		5.45	13.72	10.17		4.64	13.03	9.61

*Reported in months

[1] Based on the 1960 Stanford-Binet Intelligence Scale

[2] Based on the Illinois Test of Psycholinguistic Abilities

Table 2

Basic Home and Family Information on The Final Sample Pool

Group	Percentage of Negro Race	Percentage of Families on Welfare	Average No. of Persons per Family	Mean Educ. Level of Parent*	Housing Conditions in Percentage				Income Level in Percentage			
					extremely poor	moderately poor	fair[1]	good	less than $3000	$3000-5999	$6000-8999	over $9000
ITA only	92	12	6.39	11.53	-	20	61	19	37	57	3	3
ITA plus PLDK	87	10	7.20	9.86	-	19	67	14	54	37	5	4
WIC only	100	9	7.48	11.10	4	40	35	21	46	37	17	-
WIC plus PLDK	91	19	6.34	10.01	6	20	61	13	55	38	6	1
SCRP only	87	7	6.90	10.67	-	63	20	17	33	47	20	-
SCRP plus PLDK	77	14	6.53	10.19	7	44	37	12	29	54	15	2
Control	81	19	7.38	10.04	8	36	48	8	58	40	2	-
Total	87	14	6.83	10.29	4	31	51	14	47	43	9	1

*Educational level by self-report of the best educated parent

[1] Most of the Federal Housing Project families were classified as in fair housing; many of the lowest income level families lived in these housing projects.

(For details concerning the classification of occupations used in this project, see Appendix B). At the time of the survey 14 percent of these families were receiving welfare assistance (See Mercer, 1967, for more data on the group).

On the basis of the home information, children were deleted from the final evaluation who came from the families that (1) the total family income was over $9,000, or (2) lived in a very good house or apartment, or (3) lived in a good house or apartment and the total family income was over $6,000, or (4) the main wage earned was employed as a professional, technical or managerial worker, or (5) the best educated parent had four years or more of college.

Treatments

The following is a description of each of the reading treatments and the oral language program.

Initial Teaching Alphabet

The Early-to-Read Series developed by Mazurkiewicz and Tanyzer (1963) was used in the experiment. This series consists of eight textbooks and five workbooks designed to take the child from the beginning reading level through the transition to traditional orthography (TO) at the high third grade level. The ITA, devised by Sir James Pitman in England, has 44 symbols instead of the 26 symbols in TO. Twenty-four of the symbols are the traditional ones, while fourteen are new symbols. Each of the ITA symbols represents one phoneme, thus furnishing consistency between the sound-symbol relationship. Only the lower-case form of characters are used, with capitalization being achieved by using larger versions of the lower-case letters.

The Mazurkiewicz and Tanyzer program is based on the premise that children should first learn the individual sound symbols before they are taught to synthesize them into words. Therefore, in the beginning stages of the program, the sound symbols are learned in isolation and in key words. Children learn at an early stage that written language represents speech sounds. When a few of the sound symbols are learned, he is taught to synthesize them into simple words. Once the 44 symbols are associated with their sounds, the child develops the concept of blending the sounds into larger words. Thus he should be able to read (decode) any word.

The last two textbooks in the series (#7 and #8) are designed to make the transition from ITA to TO. When the transition was completed, the children in the experiment moved into the Basic Reading Series by McCracken and Walcutt published by J. B. Lippincott Company, beginning in Book 2. This program has a systematic phonic approach which was developed from the same rationale as the Reading with Phonics program and appeared to be especially appropriate as a follow-up for the i/t/a Early-To-Read Series.

Words In Color

The Words in Color program (Gattegno, 1963) is organized around a phonetic analysis of the English language as it is spoken. It utilizes color to expand the alphabet so that it can accurately reflect the spoken word. Under this system, each of the 47 speech sounds of English identified by Gattegno is expressed with a specific color. Individual letters (or groups of letters) are colored according to how they sound in a given word. For example, the underlined portion of the following words would appear in the same color because they all represent the same sound: late, way, waite, they, and straight. In contrast, the underlined portion of the following words would be in a different color because, though the spelling is identical, each represents a different speech sound: thought, though, bough, and through.

The short sounds of the vowels are introduced first using colored chalk at the chalkboard. From the very beginning, the program stresses that the learner takes over the responsibility of producing the sounds associated with the signs. Until the pupils can vocalize the oral model accurately, the teacher is urged to give the auditory model, accompanied by its pointer-made visual model. Thereafter, the teacher supplies the visual model and the pupils vocalize its speech equivalent. The modeling is usually done with only one or two of the short vowels. Then the teacher gives the children the opportunity to produce the remaining vowel-consonant combinations without vocal prompting from her. The materials consist of colored phonic code wall charts, colored word building wall charts, worksheets, a word building book, three pupil books, color-keyed word cards, and a book of stories.

This program is basically one of word attack, intended to be completed in a relatively short period of time, usually 12 weeks, with average and above children. It is then followed by any basal reading program. During the first year of the treatment, the WIC teachers did not formally go into a specific basal reading program. However, during the Spring, several levels of the Basic Reading Series by McCracken and Walcutt were placed in their rooms as supplementary materials.

Supplemented Conventional Reading Program

This experimental approach used a basal reading program supplemented by a phonics program (SCRP). The basal program was the Reading For Meaning (RFM) by McKee, Harrison, McCowen, and Lehr (1963) published by Houghton Mifflin. This program was supplemented by the Reading With Phonics (RWP) program by Hay and Wingo (1960).

The Houghton Mifflin Basal Reading Series is based on the premise that the typical English-speaking child brings to school a sizable speaking vocabulary, and that the major problem he encounters in beginning reading is finding a way to convert a printed word into its familiar spoken form. To do this, a single technique is employed for unlocking new words. This consists of using together (1) the context of the sentence and (2) the beginning sound of the word. Later in the program some ending and middle sounds are used in word attack. At the pre-reading level, eighteen single (one letter) consonants and four digraphs (sh, wh, th, ch) are taught. The other consonants and the vowels plus common endings and other syllables are taught as they are needed. The basic vocabulary is carefully controlled. As new words are introduced, the teacher helps the children decode them by utilizing the program's basic word-attack technique. The teacher's guides which accompany each of the readers furnish (1) detailed lesson plans, (2) suggestions for meeting the needs of fast and slow learners, (3) and suggestions for the use of numerous supplementary materials produced as a part of the program.

The Reading With Phonics (RWP) by Hay and Wingo is not a basic reading program, but is a skills program designed to make the child independent in word recognition. It makes the assumption, as does the RFM program, that first grade children already have a large speaking vocabulary and they need a word recognition program. The materials consist of one textbook and three workbooks. The phonetic elements are learned through the auditory, visual, and kinesthetic senses. The children are first taught to listen for a sound, then associate the sound and its visual symbol. Kinesthetic development takes place in the correct movement of the tongue and eyes, and the development of hand and arm through writing (Hay & Wingo, 1960).

Language Stimulation

The oral language stimulation was furnished, during the first year of the experiment, through the use of the Peabody Language Development Kit, Level #1, (Dunn & Smith, 1965). The commercial version was used. This program was taught daily to the whole class in 30 minute lessons. The PLDK is designed to stimulate oral language and verbal intelligence by training the processes of reception, expression, and conceptualization. Reception is provided through the three modalities of sight, hearing, and touch. Expression is provided through both the vocal and motor channels. The lessons concentrate on the development of verbal intelligence involving divergent, convergent, and associative thinking. They are designed for children functioning intellectually between the four and one-half to the six and one-half year age levels.

There are a total of 23 different types of activities in the PLDK. Representative of these would be brainstorming, classification, conversation, critical thinking, describing, imagination, listening, memory, pantomime, relationship, story, and vocabulary building time. Each of the 180 daily lessons contains from two to four activities from the twenty-three categories. Emphasis is placed on sequencing the difficulty of the activities from the beginning to the end of the school year.

Even though teacher participation is inevitable, the overall goal of the PLDK is to allow maximum participation by the children, giving them an opportunity to talk, think, and learn effectively in a situation with less formal structure than a regular academic period. Language time is designed to provide a period where all the children can participate and feel that they are successful. Teachers are encouraged to use much positive reinforcement, to vary activities, and to involve all children. No reading or writing is required.

Summary of Treatments

The description of the three reading programs in the project indicates that each is based on the belief that the child should learn certain sound-symbol relationships before beginning to read. None were of the "look and say" variety. One of the major problems in teaching these relationships is the inconsistency of the sound-symbol relationship of the English language. This occurs in two ways. First, a given phoneme may be represented by a number of different written symbols. Second, a given letter or combination of letters can represent several different sounds. The ITA attempts to bring about consistency by altering the printed form of the language as an initial step in learning to read. The WIC attempts to bring about consistency through color-coding where different letters or combinations of letters which represent the same sound are colored in the same way. The SCRP uses a relatively simple word attack technique without changing the symbol system. The supplementary phonics program for the SCRP takes the position that the majority of our English monosyllables are phonetic, and therefore that a phonic approach can contend with inconsistencies of the language at least in the initial stages of reading.

Each of the treatments would be toward the synthetic end of a continuum running from analytic to synthetic, but the SCRP would be more like the typical basal reader approach used in the majority of the schools in the United States. Also, the majority of the youngsters in the control group were in classes where the teachers have used the same supplementary phonics program to supplement their basal readers. Too, they used the Houghton Mifflin basal readers. Since their basal readers were the same as the ones used by the SCRP treatment, the major difference between the SCRP treatment and the control group was the consultation and in-service training furnished from outside the school rather than from within, the extra materials, and the small stipend paid to the teachers. Therefore, in this study there were two experimental reading approaches which differed considerably from the traditional approach to teaching beginning reading, and two conventional approaches, one with outside stimulation and motivation (the SCRP), and one in which the stimulation came from within the school.

The PLDK treatment is an oral stimulation program designed to stimulate oral language and verbal intelligence, and therefore to enhance school achievement. The program requires no reading or writing by the child.

Classroom Procedure

The median amount of time spent daily in formal reading instruction among the 39 teachers was 90 minutes. There was wide variation in the scheduled time for reading with a range from 75 to 145 minutes. Four teachers scheduled reading for 75 minutes, one for 80, one for 85, 16 for 90, one for 95, three for 105, 12 for 120, and one for 145 minutes (See Appendix A, Table 5, for rank order to time and treatment). The teachers in the ITA and WIC treatments averaged about 90 minutes for reading, while the SCRP and control teachers averaged about 110 minutes. Teachers using PLDK in combination with a reading treatment tended to spend less time in formal reading instruction than those not using PLDK. Across all treatments PLDK teachers taught reading an average of 93 minutes while those not teaching PLDK averaged 106 minutes.

It was agreed at the beginning of the project that the experimental teachers would remain with the children for the two years of the treatment. The children were to be kept with the same teacher for the two years except for cases where this was not feasible.

Where the experimental treatments involved basal readers and language kits not supplied by the Metro Schools, these were purchased. In addition, $30 per year was allowed each teacher for consumable classroom supplies.

The Teachers

Twenty-seven teachers participated in the experimental treatments, with twelve others serving as control teachers. The teachers were selected by their principal on the basis of their availability and willingness to participate in the study. All the participating teachers in any one school were assigned to the same treatment. This was necessary to facilitate the administration and supervision of the project and to provide a buddy-system feature. Due to the closing of a school, one teacher in the SCRP treatment was placed in a school where three teachers were in WIC.

Descriptive Data

Some data are available on the teachers. They cover four variables: highest degree earned; total years of teaching experience; years teaching grade one; and overall effectiveness in teaching reading through the assigned method (See Table 3). Twenty-one of the teachers had earned a B.A. degree while 17 had a M.A. There was one non-degree teacher in the SCRP plus PLDK treatment.

For years of experience, and years teaching first grade, four categories were established: no teaching experience; 1-3 years; 4-6 years; and 7 or more years. Of the 39 teachers, the median for total years

Table 3

Comparison of Teachers on

Earned Degrees, Years Teaching Experience, Years Teaching Grade One and Observer Rating

Treatment Group	N	Highest Degree			Years Teaching Experience				Years Teaching Grade One				Observer Rating[1]				
		None	BA	MA	0	1-3	4-6	7+	0	1-3	4-6	7+	1	2	3	4	5
ITA	3	-	1	2	-	1	-	2	-	1	-	2	-	1	2	-	-
ITA plus PLDK	6	-	4	2	-	1	3	2	2	1	1	2	2	1	2	1	-
WIC	3	-	2	1	-	1	-	2	1	2	-	-	-	1	1	1	-
WIC plus PLDK	6	-	5	1	-	2	2	2	1	2	1	2	-	3	1	1	1
SCRP	3	-	1	2	1	-	-	2	1	1	-	1	1	-	3	4	-
SCRP plus PLDK	6	1	2	3	-	1	1	4	-	2	3	1	-	2	3	1	-
Control	12	-	6	6	-	2	2	8	-	3	6	3	1	3	3	4	1
Total	39	1	21	17	1	8	8	22	5	12	11	11	4	11	15	12	2

[1] Rating #1 was designated as poor, and #5 as excellent.

experience was in the 7 years or more category. There was only one teacher in the project who had no teaching experience. She was in the SCRP treatment. The median for years teaching grade one was in the 4-6 year category. There were five teachers in the project who were teaching grade one for the first time. Two were in the ITA plus PLDK treatment, one in WIC, one in WIC plus PLDK, and one in the SCRP.

To obtain ratings on overall effectiveness in teaching reading, one to three members of a team of evaluators rated each of the teachers. All three members of the team were educators holding an earned doctorate with competence in reading instruction. An evaluation sheet (See Appendix B) was prepared by the central research staff with the help of the evaluating team. A five point scale, where "1" designates a rating of poor and "5" designates a rating of excellent, was employed for the overall rating score. To standardize rating procedures, the team, and the consultant for each treatment, visited one classroom in each treatment group. Following the visit, a consensus rating was arrived at through discussion among the evaluators. Questions concerning the expected procedures for implementing the program were discussed in light of the observation. Every effort was made to standardize the evaluative criteria. After the standardization of the team on each treatment, teachers from the experimental groups and the control group were randomly assigned to each of the three members of the evaluating team. Evaluations were made during April and the first two weeks in May.

The median rating for the total group of teachers was three (or average). Four teachers received a rating of one (or poor), two in the ITA plus PLDK, one in the SCRP, and one in the control group. There were two teachers who received a rating of five (or excellent). One each of these two teachers was in the WIC plus PLDK group and control group. It should be noted that four teachers in the control group received a four and one a five. Each of these teachers were members on the teaching staff of the only school in the district that is accredited by the Southern Association of Colleges and Schools. This school and its personnel meet a set of criteria that had not been met in any of the other schools participating in the project.

Supervision and Training

The training sessions for teachers of all treatments were held during the first week in September, 1965. An orientation session attended by all teachers participating in the study was held during the first hour of the training program. This orientation session was conducted by the principal investigator for the Cooperative Reading Project plus the other research staff members. It included a summary statement about each of the treatments to be used, the introduction of the members of the investigating team and the consultants, and the introduction of the coordinating personnel from the Metropolitan Nashville-Davidson County Public Schools. Each of the treatments have a Peabody-based Coordinator. After the orientation session, each treatment group met separately with their coordinator both for pre-service and in-service sessions, as well as for classroom observation.

The WIC materials arrived approximately ten days prior to the pre-service training sessions, giving these days for the teachers to study them. The WIC training sessions were held for two hours in the afternoon and two hours in the evening for three consecutive days. The sessions were conducted by a WIC consultant from the publisher and attended by the teachers and the local consultant for that group. Two hours each day were used for a demonstration with a group of children and discussion. During the other two hours, the consultant explained the three stages of the WIC program and the materials to be used in these stages.

The SCRP had approximately seven hours of training sessions in September. At one meeting a consultant from the publishers of the Reading For Meaning (RFM) Series met with the teachers. During this meeting she explained the use of the readiness book, the materials for the word recognition technique stressed in the program, and the teaching techniques and exercises associated with each of the series three preprimers, primer, and first reader. Following her explanation of the first grade materials used in the program, she gave an overview of the total primary program in the RFM series, and provided a list of all the materials that are published for use with it. A consultant from the publisher of Reading with Phonics met with the group for another session. The SCRP teachers observed the consultant give an hour long demonstration lesson. Following the lesson, the teachers asked questions concerning the demonstration as well as about the program and its materials.

The ITA group met for pre-treatment sessions on four different days in September. The principal investigator for the CRP and his assistant, who worked as a consultant with the teachers during the year, conducted these meetings. They gave an overview of ITA and taught the teachers how to read and write in ITA. Too, the consultant taught a demonstration lesson with a group of children. The consultant also discussed teaching techniques using the ITA program.

The teachers using Peabody Language Development Kits met for six hours during the early portion of September for their pre-service training in oral language stimulation. These training sessions were conducted by the principal investigator who was also the senior editor of the PLDK. There were three phases to this six hour training program. First, each teacher received the commercial version of the Level #1 kit and was given the opportunity to examine it; the kit's contents and their suggested use were then discussed. Second, the consultant introduced the teaching manual for (1) the organization of the class, (2) the setting for the lessons, (3) the presentation of the lessons, and (4) the procedures for evaluating them. Third, the teachers observed a demonstration lesson with a small group of children.

Each of the treatment groups met on a regular basis during the school year. These were generally after-school sessions scheduled twice a month. The consultants for the different treatments conducted these meetings. They discussed the teaching techniques and materials for their approach, shared ideas and materials prepared for their children, and occasionally presented their prepared materials. These meetings were also used for handling administrative details such as ordering materials. The highlights of the sessions were usually dittoed and mailed to each teacher. In addition to these seminars the consultants had responsibility for visiting the classrooms of the teachers in their treatment group. Each of the reading treatments received approximately four and one-half hours of visitation per week throughout the school year. The consultant for the WIC treatment was a doctoral student at George Peabody College, and also the female investigator in the CRP. Her supervisory experience had consisted of one semester spent in the supervision of six off campus student teachers who were assigned to various grades in two elementary schools. The visitation in the SCRP was provided primarily by a candidate for the master's degree and to some extent by one of the male investigators in the CRP who served as consultant for this group. The graduate student began her visitation in mid October, and did most of the visitation from that time until the end of the year. She had had no previous supervisory experience, but had taught the RFM program in the first grade for four years. The visitation for the ITA treatment was done by an experienced teacher of ITA on leave from the Metropolitan School System who divided her time between the CRP and another project. She had a master's degree, twenty-five years teaching experience in the first and second grade, and had taught ITA in an experimental program the previous year. This person worked with the principal investigator for the CRP who served as consultant for this group.

Frequent classroom visitation to observe PLDK was not practiced. The principal investigator met with the PLDK teachers once a month. Each of the teachers completed daily evaluation sheets and turned them in at these monthly meetings.

Evaluation Instruments

It was felt that the program should be appraised in three important areas of development: intellectual functioning; language abilities; and school achievement.

Intellectual Functioning

The Stanford-Binet Intelligence Scale (S-B) was used to provide data on intellectual functioning. These data were obtained primarily for studying whether the program enhanced intellectual growth.

The S-B (Terman-Merrill, 1960) is a standardized, individual intelligence scale yielding mental age and intelligence quotient scores. Items range from simple manipulation of objects to abstract reasoning. They are grouped into age levels according to their difficulty, ranging from age two to superior adult. Although the test includes a number of performance-type items, particularly at lower age levels, it is essentially verbal in nature. Reliability coefficients of earlier editions, especially the 1937 edition, range from 0.83 to 0.98 depending on age and IQ level (Sontag _et al_., 1958). Higher correlations are obtained at upper age levels, and at low IQ levels. Validity in predicting school achievement, particularly in more verbally oriented subjects such as language and reading, has been generally good. Bond (1940) reported correlation coefficients ranging from 0.43 to 0.73 between Binet scores and achievement in various school subjects among tenth grade youngsters. Although a restandardization of the scale was not carried out in connection with 1960 edition, the test authors suggest the latest revision retains the main characteristics of the 1937 edition, including high reliability and validity.

The S-B is among the most widely used tests of general intelligence (Silverstein, 1953; Weise, 1960). In addition, it is the individual intelligence scale which has been demonstrated to be effective at the age and ability level of the subjects in the present sample. Thus, it was the instrument of choice for evaluation of intelligence in this study.

Language Abilities

The Illinois Test of Psycholinguistic Abilities (ITPA) and the Peabody Language Production Inventory (PLPI) were used to provide data on language abilities. The ITPA was used as the principal measure of language skills and the PLPI was used to supplement data on oral expression.

The ITPA (McCarthy & Kirk, 1961) is an individually administered test measuring language abilities across the range 2-6 to 9-0 years of age. It yields age equivalent and standard scores on total language functioning and on each of the nine subtests. The following facets of oral language development are measured by the instrument.

(1) Auditory decoding -- the ability to understand spoken words.
(2) Visual decoding -- the ability to classify pictures from memory.
(3) Auditory-vocal association -- the ability to reason by analogies.
(4) Visual-motor association -- the ability to relate pictures in a meaningful way.
(5) Vocal encoding -- the ability to express ideas in spoken words.
(6) Motor encoding -- the ability to express ideas in gestures.
(7) Auditory-vocal automatic -- the ability to produce language automatically and accurately in a grammatical sense.
(8) Auditory-vocal sequencing -- the ability to reproduce a series of digits accurately from memory.
(9) Visual-motor sequencing -- the ability to reproduce a series of pictures from memory.

The ITPA is designed to measure two levels of meaning--the representational level (sub-tests one through six) on which subjects must deal meaningfully with language symbols, and the automatic-sequential level (sub-tests seven through nine) on which subjects deal with the non-meaningful use of language. Three processes of language are measured--

decoding or reception, encoding or expression, and association described by the test authors as the internal manipulation of symbols. The ITPA measures two stimulus channels (auditory and visual) and two response channels (vocal and motor).

Reliability is exceptionally high, a split-half reliability coefficient of 0.99 and a test-retest reliability coefficient of 0.97 being reported for the standardization sample. At present, evidence of validity of the ITPA is limited. Early studies of the test have indicated fairly high correlations with measures of general intelligence. In the standardization of the test (McCarthy & Kirk, 1961) a correlation of 0.96 was obtained between age scores of the S-B and the ITPA. McCarthy and Olson (1964) reported an extensive study of the validity of the ITPA with a group of 86 children ranging in age from 7 years no months to 8 years 6 months. They concluded that the concurrent, construct, and predictive validities of the ITPA are adequate but the content and diagnostic validities are less adequate. The ITPA was selected as principal measure of language abilities on the basis of the promise it has shown in early studies and the extensive research its publication has stimulated. Besides, it is the only well developed test of oral language functioning which is generally available.

The Peabody Language Production Inventory (Nelson, 1964) is also an individually-administered test measuring oral language ability. The test is administered by showing the subject a series of three pictures (street scene, Good Humor Man scene, operating room scene) and asking him to relate a story about the pictures. The responses are rated in three dimensions of language performance, namely, level of abstraction, structural complexity and general quality of speech (for detail see Appendix C). Responses to each picture are rated separately for level of abstraction and for structural complexity. A single rating of the general category is obtained for the entire test. The PLPI was included to provide data on oral language abilities in terms of the connected, free speech of the subject. The PLPI data were used to supplement the ITPA data.

School Achievement

The Metropolitan Achievement Test (MAT) was used to provide school achievement data. It is a group-administered test. Primary Battery I, the first-grade level was used. It consists of four subtests, namely, word knowledge, word discrimination, reading, and arithmetic. Standard score, grade equivalent, percentile, and the stanine scores are available. The test was standardized on a nationwide sample of school children. A test-retest reliability coefficient of 0.83 is reported for the total test. Sub-test reliability coefficients based on corrected split-half method are 0.90 for word knowledge, 0.87 for word discrimination, 0.92 for reading comprehension, and 0.97 for arithmetic.

The MAT was selected because it is used throughout the Nashville-Davidson County Metropolitan Public Schools and is administered routinely each year. This not only allowed for direct comparison of school achievement between the experimental group and all other children in the school district, but also reduced test-administration problems.

Testing Schedule

The S-B, ITPA, and PLPI were given to most of the children prior to the beginning of school in the fall of 1965. A few youngsters who were not tested prior to the beginning of school were tested during the first week of school. In the spring of 1966, the achievement tests were administered during the last four weeks of school by an examiner other than the classroom teacher. The teacher served as a monitor. The individual tests (S-B, ITPA, and PLPI) were re-administered during the last six weeks of school.

CHAPTER III

RESULTS AND DISCUSSION

The results for the first year of the study (1965-66) are reported in this chapter. Since the treatments were administered to all children in a classroom, the treatment groups were not comparable in size or on such variables as IQ, CA, LA, and sex. Therefore, subjects were eliminated who did not meet the criteria set up for disadvantaged children (See Chapter II). Then subjects with CA's of above 90 months (7-6), and with IQ's below 60 or above 110 were excluded. Finally, samples of equal (or proportional) size for each sex were randomly drawn from the final pool of subjects for each of the treatment groups. This resulted in a selected sample of 480 subjects (240 boys and 240 girls) being drawn from the 608 subjects in the final subject pool (See Table 1). A summary of pretest data for this selected sample is presented, by treatment group, in Table 4. The means for CA, IQ, and LA of the total group were 74.03 (6-2) months, 86.31 points, and 62.06 (5-2) months respectively. Analyses of variance (See Table 5) indicated that the resultant groups were comparable in CA, IQ, MA, and LA (CA differences were significant at .90 level, but analyses of covariance were not used since the .95 level was not reached).

Results

Results of the intervention treatments at the end of the first year are reported below for each of the three areas of development: intellectual functioning, language abilities, and school achievement. A summary of the basic descriptive data on these three dimensions is reported by treatment groups in Table 6. Another summary of the same data (but broken down by sex) is presented in Table 2, Appendix A. Table 6, Appendix A, contains matrices of means of all groups used in the analyses of variance. Complete data, by subjects, on all variables are presented in Appendix C for readers who are interested in either reanalyzing the material differently, or using the data for other purposes.

Intellectual Functioning

Both IQ and MA scores on the Stanford-Binet Intelligence Scale were obtained but only the IQ scores are reported herein. Means and standard deviations on the pretest, posttest, and gain scores are presented in Table 6. Results of analyses of variance on IQ gains are presented in Table 7. (Since the analyses of variance of MA gains yielded essentially the same results, they are not reported herein. However, the means and standard deviations of the pretest, posttest and MA gain scores are presented in Table 3, Appendix A.)

As anticipated, no significant difference in IQ gain scores was found between groups receiving the experimental reading programs only

Table 4

Summary of Pretest Data on the Selected Sample by Treatment Groups

Treatment Group	N	CA		IQ		MA		LA	
		$\bar{X}$	S	$\bar{X}$	S	$\bar{X}$	S	$\bar{X}$	S
ITA only									
Boys	25	73.88	4.10	86.72	9.68	65.04	7.39	62.88	8.34
Girls	25	74.56	4.02	88.96	10.53	66.88	7.03	62.64	7.55
Total	50	74.22	4.03	87.84	10.08	65.96	7.20	62.76	7.90
ITA plus PLDK									
Boys	55	74.09	5.04	87.16	9.60	65.47	7.09	61.24	9.19
Girls	55	73.95	3.78	85.65	11.34	64.35	7.61	60.91	7.57
Total	110	74.02	4.43	86.41	10.49	64.91	7.35	61.07	8.38
WIC only									
Boys	25	73.36	3.39	85.80	10.24	64.08	7.40	61.20	9.76
Girls	25	73.84	3.96	83.20	12.19	62.36	8.40	60.88	9.33
Total	50	73.60	3.73	84.50	11.22	63.22	7.89	61.04	9.34
WIC plus PLDK									
Boys	55	73.04	4.32	85.07	11.33	63.33	7.58	62.31	10.34
Girls	55	73.63	3.80	88.04	10.43	65.84	7.21	63.33	10.03
Total	110	73.34	4.05	86.55	10.94	64.59	7.44	62.82	10.13
SCRP only									
Boys	15	73.13	3.34	86.47	10.49	66.67	7.29	59.87	4.14
Girls	15	74.40	3.64	91.73	9.86	68.93	7.77	64.00	6.02
Total	30	74.77	3.45	89.10	10.35	67.80	7.49	61.93	5.49
SCRP plus PLDK									
Boys	40	74.50	4.98	88.48	12.34	66.52	9.09	62.62	9.65
Girls	40	74.75	4.89	86.30	9.46	65.20	6.37	64.00	7.37
Total	80	74.62	4.90	87.39	10.98	65.86	7.83	63.31	8.56
Control									
Boys	25	74.44	4.80	82.44	11.23	62.52	7.81	60.84	7.72
Girls	25	73.44	3.73	86.32	10.00	63.92	7.09	61.04	5.73
Total	50	73.94	4.29	84.38	10.72	63.22	7.42	60.94	6.73
Total	400	74.03	4.25	86.51	10.74	64.93	7.55	62.06	8.63

Table 5

Analysis of Variance of Pretest Data on the Selected Sample by Treatment Group

Variable	Source of Variation	Degree of Freedom	Sums of Squares	Mean Squares	F. ratio
CA	Between Groups	13	107.029	8.233	.450
	Within Groups	466	8529.619	18.304	
	Total	479	8636.648		
S-B IQ	Between Groups	13	1723.683	132.591	1.155
	Within Groups	466	53504.242	114.816	
	Total	479	55227.925		
S-B MA	Between Groups	13	1137.300	87.485	1.558**
	Within Groups	466	26169.431	56.158	
	Total	479	27306.731		
ITPA LA	Between Groups	13	635.571	48.890	.650
	Within Groups	466	35076.796	75.272	
	Total	479	35712.367		

$*F_{.95}=1.72$ $**F_{.90}=1.55$

Table 6

Means and Standard Deviations of Basic Data of the Selected Sample

by Treatment Group on the Three Areas of Development

Group	N		S-B IQ			ITPA LA[1]			MAT[2]		
			Pretest	Posttest	Gain	Pretest	Posttest	Gain	WK	WD	R[3]
ITA only	50	$\bar{X}$	87.84	93.08	5.24	62.76	69.44	6.68	1.640	1.662	1.618
		S	10.08	9.90		7.90	8.65		.506	.529	.350
ITA plus PLDK	110	$\bar{X}$	86.41	87.48	1.07	61.07	69.40	8.33	1.553	1.555	1.538
		S	10.49	12.27		8.38	8.34		.409	.446	.339
ITA total	160	$\bar{X}$	86.85	89.22	2.37	61.60	69.41	7.81	1.580	1.589	1.563
		S	10.35	11.84		8.24	8.41		.442	.475	.343
WIC only	50	$\bar{X}$	84.50	85.02	.52	61.04	67.44	6.40	1.538	1.572	1.490
		S	11.22	12.86		9.36	10.49		.401	.609	.349
WIC plus PLDK	110	$\bar{X}$	86.56	88.59	2.03	62.82	73.26	10.44	1.535	1.630	1.512
		S	10.94	13.62		10.15	9.10		.350	.530	.337
WIC total	160	$\bar{X}$	85.91	87.47	1.56	62.26	71.44	9.18	1.536	1.612	1.505
		S	11.04	13.45		9.97	9.90		.366	.555	.340
SCRP only	30	$\bar{X}$	89.10	89.37	.27	61.93	72.07	10.14	1.827	1.967	1.723
		S	10.35	11.53		5.49	7.55		.628	.800	.505
SCRP plus PLDK	80	$\bar{X}$	87.39	92.52	5.13	63.31	73.43	10.12	1.570	1.676	1.530
		S	10.98	13.27		8.56	8.85		.288	.476	.208
SCRP total	110	$\bar{X}$	87.85	91.66	3.81	62.94	73.05	10.11	1.640	1.755	1.583
		S	10.79	12.84		7.84	8.50		.422	.593	.326
Control	50	$\bar{X}$	84.38	84.40	.02	60.94	68.88	7.94	1.538	1.618	1.560
		S	10.72	10.12		6.73	8.24		.291	.386	.261
Total	480	$\bar{X}$	86.51	88.70	2.19	62.06	70.87	8.81	1.575	1.638	1.548
		S	10.74	12.61		8.63	9.04		.400	.526	.331

[1]Reported in months; [2]reported in grade equivalent scores; [3]WK--Word Knowledge; WD--Word Discrimination; R--Reading Comprehension

and the controls. However, as predicted, in comparison with control subjects (.02 point gain), experimental subjects who received the PLDK treatment (2.50 point gain) made significantly greater gains in IQ (.90 level of confidence). In a comparison among all the treatment groups, not including the control groups, there were no significant main effects. However, a significant interaction effect was observed between the method of teaching beginning reading and the oral language stimulation (PLDK) treatments. Further analysis of these data indicated that greater IQ gains were made by subjects in the WIC (2.03 point gain) and SCRP (5.13 point gain) reading approaches who received PLDK treatment than for those who received no PLDK treatment (WIC: .32 point gain; SCRP: .27 point gain). The reverse was true for the ITA reading approach (ITA: 5.24 point gain; ITA plus PLDK: 1.07 point gain).

When the overall pattern of intellectual development is observed at the end of the final year, the picture is somewhat encouraging. The experimental children who received language stimulation made 2.50 points gain in IQ, the reading treatments alone made 2.28 points gain, and the controls gained only .02 points. Translating this into mental age as an index for intellectual growth, in a period of approximately eight months: experimental children who received PLDK treatments made about 9.84 months gain in MA; experimental children who received no PLDK treatment made about 9.26 months gain; and control children made about 8.16 months.

Language Abilities

Language abilities were measured by the Illinois Test of Psycholinguistic Abilities and the Peabody Language Production Inventory. Means and standard deviations of the pretest, posttest, and gain LA scores on the ITPA are presented on Table 3. Results of the analyses of variance of LA gains are presented in Table 8. Contrary to our prediction, in comparison with the controls, when pooled together the experimental subjects who received PLDK treatment made slightly but not significantly greater gains in LA. Boys made significantly greater gains in LA than girls (boys: 9.94 months gain; girls: 7.88 months gain). In comparison among treatment groups, not including the control group, all three main effects were significant, namely, method of teaching reading, the oral language stimulation program, and sex. There were no significant interaction effects. Further analysis of the data indicated that children who learned to read by the WIC and SCRP approaches (WIC: 9.18 months gain; SCRP: 10.12 months gain) made significantly greater gains in LA than children who learned to read by ITA approach (7.81 months gain). Among the experimental groups, subjects who received PLDK treatment made significantly greater gains in LA (9.58 months gain) than those who received no PLDK treatment (7.37 months gain).

For the PLPI, only the posttest scores were used in the statistical analysis. Means and standard deviations of the PLPI posttest scores by treatment group are presented in Table 4, Appendix A. The results of

Table 7

Analyses of Variance on IQ Gain Scores as Measured by the Stanford-Binet Intelligence Scale

Comparison	Source of Variation	Degree of Freedom	Sum of Squares	Mean Squares	F. ratio
Of subjects receiving no FLDK treatment with control subjects	A (experiment vs. control)	1	183.939	183.939	2.326
	B (sex)	1	110.500	110.500	1.397
	A x B	1	10.843	10.843	.137
	Errors	176	13619.668	79.089	
	Total	179	13924.950		
Of subjects receiving FLDK treatment with control subjects	A (experiment vs. control)	1	265.008	265.008	3.243*
	B (sex)	1	87.500	87.500	1.071
	A x B	1	26.973	26.973	.330
	Errors	346	28277.493	81.727	
	Total	349	28656.974		
Between treatment groups	A (Method of tchng. read.)	2	330.195	165.097	2.162
	B (FLDK vs. No FLDK)	1	4.787	4.787	.063
	C (sex)	1	91.172	91.172	1.194
	A x B	2	1191.459	595.730	7.803**
	A x C	2	66.896	33.448	.438
	B x C	1	5.404	5.404	.071
	A x B x C	2	292.985	146.492	1.919
	Errors	418	31912.907	76.347	
	Total	429	33895.805		

**$F_{.95}=3.02$ *$F_{.90}=2.73$

Table 8

Analyses of Variance on Language Age Gains as Measured by the Illinois Test of Psycholinguistic Abilities

Comparison	Source of Variation	Degree of Freedom	Sum of Squares	Mean Squares	F. ratio
Of subjects receiving no PLDK treatment with control subjects	A (experiment vs. control)	1	11.764	11.764	.312
	B (sex)	1	98.272	98.272	2.608
	A x B	1	1.748	1.748	.046
	Errors	176	6633.077	37.688	
	Total	179	6744.861		
Of subjects receiving PLDK treatment with control subjects	A (experiment vs. control)	1	115.269	115.269	2.530
	B (sex)	1	384.826	384.826	8.447*
	A x B	1	12.808	12.808	.281
	Errors	346	15762.267	45.556	
	Total	349	16275.170		
Between treatment groups	A (Method of tchng. read.)	2	365.059	182.530	4.172**
	B (PLDK vs. No PLDK)	1	443.285	443.285	10.132*
	C (sex)	1	454.335	454.335	10.385*
	A x B	2	212.572	106.386	2.429
	A x C	2	50.592	25.296	.578
	B x C	1	9.678	9.678	.221
	A x B x C	2	55.352	27.676	.632
	Errors	418	18287.768	43.751	
	Total	419	19878.642		

$^{*}F_{.95}=3.86$ $^{**}F_{.95}=3.02$

Table 9

Analyses of Variance on Posttest Scores of the Peabody Language Production Inventory

Comparison	Source of Variation	Degree of Freedom	Sum of Squares	Mean Squares	F. ratio
Of subjects receiving no PLDK treatment with control subjects	A (experiment vs. control)	1	2.441	2.441	.015
	B (sex)	1	22.050	22.050	.134
	A x B	1	193.078	193.078	1.175
	Errors	176	28921.292	164.326	
	Total	179	29138.861		
Of subjects receiving PLDK treatment with control subjects	A (experiment vs. control)	1	2795.680	2795.680	19.555*
	B (sex)	1	202.160	202.160	1.414
	A x B	1	92.610	92.610	.648
	Errors	346	49464.647	142.961	
	Total	349	51555.097		
Between treatment groups	A (Method of tchng. read.)	2	2166.885	1083.442	7.704**
	B (PLDK vs. No PLDK)	1	6303.489	6303.489	44.824*
	C (sex)	1	37.509	37.509	.267
	A x B	2	24.494	12.247	.087
	A x C	2	49.799	24.899	.177
	B x C	1	64.348	64.348	.458
	A x B x C	2	79.595	39.797	.283
	Errors	418	57782.767	140.629	
	Total	419	67508.886		

$^{*}F_{.95}=3.86$ $^{**}F_{.95}=3.02$

the analysis of variance of FLPI data are presented in Table 9. Most of the findings supported our prediction. In comparison with control subjects, the experimental subjects who received FLDK treatment displayed significantly higher language ability in terms of connected speech production. This was confirmed by the results of between-treatment group comparison. Children who received FLDK treatment demonstrated higher language ability as measured by the FLPI than children who received no FLDK treatment. The method of teaching beginning reading was also found to have differential effects upon free speech performance. The data analysis indicated that children who learn to read by WIC and SCRP approaches performed significantly better (in terms of connected speech production) than children who learned to read by the ITA approach.

School Achievement

Appraisal of school achievement was made by means of the Metropolitan Achievement Test given in traditional orthography to all subjects including the ITA pupils. Grade equivalent scores from the three reading subtests, namely, word knowledge, word discrimination and reading comprehension were reported and employed in the statistical analysis. Means and standard deviations of these scores by treatment are presented in Table 6. Results of the analyses of variance of school achievement data are presented in Table 10. There was no significant difference, overall, between subjects receiving an experimental reading program and those who did not (Experimental S's: 1.59; Control S's: 1.57). Thus, control children read as well at the end of the first year as children in the experimental reading programs. This finding did not support our prediction. As expected, girls were significantly superior to boys on all manner of reading performance under both experimental and control conditions. This was consistent in all comparisons between control and experimental subjects, and among the experimental treatments. For the combined reading performance (average of the three MAT subtests), the girls scored at the 1.66 grade level while the boys were at the 1.52 grade level. There were also significant differences among the subtest scores across all groups (WK: 1.58; WD: 1.64; Rdg.: 1.55). All the subjects tended to score higher on the word discrimination subtest than the other two subtests. An interaction on the analyses among experimental treatment groups indicated that the total SCRP experimental group made higher scores on word discrimination than the total WIC or ITA groups (SCRP: 1.76; WIC: 1.61; ITA: 1.58). Among the treatment groups--excluding the control group--those children who received the experimental reading treatments only were significantly superior to those children who received reading plus FLDK (Reading only: 1.65; Reading plus FLDK: 1.56). Again, this did not support our prediction. The A x B interaction indicated that the experimental subjects in the SCRP only approach accounted for most of this difference by their superior performance (combined Rdg.: 1.84). In addition, at the .90 level of confidence, the total SCRP group was significantly superior in their combined reading performance to those who learned to read in the other two approaches (SCRP: 1.66; WIC: 1.55; ITA: 1.57).

Table 10

Analyses of Variance on School Achievement as Measured by the Metropolitan Achievement Test

Comparison	Source of Variation	Degree of Freedom	Sum of Squares	Mean Squares	F. ratio	
Of subjects receiving no PLDK treatment with control subjects	A (treatment group)	1	.575	.575	1.098	
	B (sex)	1	10.389	10.389	19.822*	$F_{.95}=3.89$
	A x B	1	.479	.479	.914	
	Errors	176	92.246	.524		
	Subtotal of variance between S's	179	103.689			
	C (subtest)	2	.784	.392	8.051*	$F_{.95}=3.02$
	A x C	2	.098	.049	1.006	
	B x C	2	1.748	.874	17.947*	$F_{.95}=3.02$
	A x B x C	2	.091	.045	.932	
	Errors	352	17.172	.049		
	Subtotal of variance within S's	360	19.893			
	Total	539	123.582			
Of subjects receiving PLDK treatment with control subjects	A (treatment group)	1	.008	.008	.025	
	B (sex)	1	1.382	1.382	4.249*	$F_{.95}=3.86$
	A x B	1	.518	.518	1.594	
	Errors	346	112.320	.325		
	Subtotal of variance between S's	349	114.228			
	C (subtest)	2	1.379	.690	12.675*	$F_{.95}=3.00$
	A x C	2	.048	.024	.443	
	B x C	2	.216	.108	1.985	
	A x B x C	2	.210	.105	1.928	
	Errors	692	37.680	.054		
	Subtotal of variance within S's	700	39.533			
	Total	1049	153.761			

Table 10 (continued)

Analyses of Variance on School Achievement Data as Measured by the Metropolitan Achievement Test

Comparison	Source of Variation	Degree of Freedom	Sum of Squares	Mean Squares	F. ratio	
Between treatment groups	A (Method of tchng. readl)	2	2.472	1.236	2.786**	$F_{.90}=2.330$
	B (PLDK vs. No PLDK)	1	1.958	1.958	4.414*	$F_{.95}=3.86$
	C (sex)	1	5.314	5.314	11.980*	$F_{.95}=3.86$
	A x B	2	3.176	1.588	3.579*	$F_{.95}=3.02$
	A x C	2	1.025	.512	1.155	
	B x C	1	4.888	4.888	11.018*	$F_{.95}=3.86$
	A x B x C	2	1.005	.503	1.133	
	Errors	418	185.431	.444		
	Subtotal of variance between S's	429	205.268			
	D (subtest)	2	1.930	.965	17.806*	$F_{.95}=3.00$
	A x D	4	.790	.197	3.642*	$F_{.95}=2.38$
	B x D	2	.028	.014	.253	
	C x D	2	.528	.264	4.873*	$F_{.95}=3.00$
	A x B x D	4	.152	.038	.699	
	A x C x D	4	.059	.015	.269	
	B x C x D	2	1.204	.602	11.107*	$F_{.95}=3.00$
	A x B x C x D	4	.210	.052	.965	
	Errors	836	45.347	.054		
	Subtotal of variance within S's	860	50.247			
	Total	1289	255.514			

*Significant at .95 level
**Significant at .90 level

Discussion

The effectiveness of this intervention treatment will have to be judged, in the final analysis, at the end of the program. Therefore, the following discussion and interpretations are made with reservations.

Intellectual Functioning

Those youngsters who received the oral language stimulation program made significantly greater gains in intelligence than the control children. At the same time, experimental subjects receiving PLDK made no greater intellecutal gains than experimental subjects in the reading treatments without language stimulation. These results offer only partial support to our predictions. The poor showing of the ITA plus PLDK group, not only contradicted our prediction, but was a reversal of the findings of Dunn and Mueller (1966) in the earlier Cooperative Language Development Project. These findings are difficult to interpret. Perhaps having two new treatments to teach was expecting too much of the teacher. This would appear to be especially true with the ITA plus PLDK group. Perhaps these teachers put so much attention on ITA that the PLDK lessons were neglected.

Language Abilities

The LA gains for experimental subjects receiving PLDK lessons were not significantly greater than for control subjects. Again this was not predicted and was not in keeping with earlier findings (Dunn & Mueller, 1966). This result is even more difficult to interpret than the IQ findings. There are several possibilities that could account for this result. It could be that: the oral language stimulation lessons were neglected; or the control teachers were doing an unusually effective job in oral language stimulation; or the language lessons may not stimulate oral language as much as earlier results reported. The adequate explanation awaits further study. In the meantime, as in previous research, boys gained more from the Level #1 PLDK lessons than the girls. The new evidence from this study is that, among the experimental subjects, those who received PLDK made significantly greater gains than those in experimental reading programs without PLDK. This result suggests that the value of PLDK may still be substantial. Too, connected speech was clearly stimulated by the PLDK lessons. In practical terms, this may be even more important than the ITPA results.

School Achievement

The results of school achievement were less encouraging. There were no differences between the control group and the total experimental reading groups. The most obvious interpretation is that the experimental reading treatments, with increased motivation and stimulation, were no more effective than the traditional first grade reading program. However, there is some evidence which indicates that most of the control group came from a school with traditionally higher achievement than the experimental schools.

The SCRP treatment group tended to score higher than the other two reading treatments. When interpreting this finding, it should be remembered that the ITA group was examined in traditional orthography, and less than half of them had made the transition into this orthography. The reading treatments, when used without PLDK, achieved higher reading scores than when the PLDK was used with the reading treatment. Again, this is inconsistent with Dunn and Mueller (1966). They found PLDK in combination with ITA to be more effective than ITA alone with boys, and at least as effective with girls.

Based on the data at the end of one year, there are no results that would suggest the use of any one of the reading approaches over the others. The restricted range of scores at the end of the first year could have had a limiting effect on any differences. The second year results should not have this restricted range. Therefore, they could detect more differential effects.

CHAPTER IV

INFORMAL EVALUATION

Chapter IV presents an overview of the reactions of the teachers to the experimental programs. Each teacher was asked to write a short report at the end of the school year concerning general observations about her class, the experimental method or methods employed, the progress of her pupils, and the impact that the program had upon her as a teacher. The following was drawn from these reports.

General Observations

Most of the teachers felt that their classrooms were adequate in size, lighting, and equipment. As one would expect, there were notable exceptions to this. One teacher occupied four rooms during the year, ranging from the gym at the beginning of the year to a portable classroom after Christmas, to a room in a new annex at the end of the year. Two classrooms were located in basements and the teachers rated them as dark, dreary, and inadequate. In several cases, it was felt that the furnishings were too large for first grade children. The outside noise level varied considerably from classroom to classroom, even within the same school. Two teachers in one school contended with construction outside their classrooms during most of the year. Other rooms were adjacent to the playground and had distractions during most of the school day. The teachers' attitude toward the outside noise ranged from a feeling that it was extremely detrimental to others who accepted it, and even utilized the activities occurring outside for learning experiences. Of course, the amount and duration of the noise probably determined the teacher's attitude.

Most children came from very poor socio-economic backgrounds. Housing projects raised the general level of housing. However, aside from projects, crowded homes and inexpensive duplexes were common. The frequent lack of a father figure in the home was apparent--many children living with only their mother or their grandmother. Readiness tests administered at the beginning of the school year indicated that many children would be classified as poor risks in learning to read during the first year of school. Some pupils were repeaters of the first grade. There was a scattering of children who had had some kindergarten experience, but this was the exception rather than the rule. The majority of the classes enrolled between 25 and 30 pupils. One notable exception was a teacher in the SCRP treatment who had 45 students. She was provided with a teacher aid in an attempt to equalize adult-pupil contact. A few teachers reported no changes in pupils during the year, but most had several children who transferred in and out.

Classroom atmosphere was reported as adequate by most teachers. The children who were repeating the first grade tended to have behavior problems that caused some difficulties in their classes.

Experimental Methods of Teaching Reading

The teachers reported using many supplementary materials besides their basic reading materials in working with their pupils. Many of these materials were teacher-made while some were prepared commercially. This was so, particularly with readiness materials. Many of these deprived youngsters needed extensive readiness activities during the early part of the school year.

The ITA teachers felt that the basic materials were excellent, the stories were interesting, the alphabet furnished a one to one correspondence between sound and symbol, and the lack of capital letters helped the children in learning to read. They found the Downing Readers and ITA library books to be helpful as supplementary reading materials. Several teachers commented on the use of experience stories as helpful in reading and writing. Generally, the enthusiasm of the group was high.

The teachers in the supplemented conventional program used many more supplementary reading materials such as books from other series and trade books (i.e. Dr. Seuss books). They had planned to use the readiness book from the Houghton Mifflin program at the beginning of the year, but the Houghton Mifflin material did not arrive until late October. Due to this, all teachers began with the Reading with Phonics materials. They also had to resolve some inconsistencies between the two programs, notably, that in the RFM program the consonants are introduced first, while in the RWP program the short vowel sounds are taught first. Since the RFM was to be supplemented by the RWP, the fact that the RFM materials were late in arriving caused considerable inconvenience in the approach.

The WIC teachers generally experienced great difficulty with their materials. They felt that the worksheets were too small, the pupil books and word building materials were too difficult. Too, the teachers reported that the manual was not clear in its directions for the teacher. While the program's author states that most children would complete the WIC program in about 12 weeks, most teachers were seeing little progress as late as January. At this time a consultant from the publisher worked with them and helped in guiding them into other materials. Even though this approach was going into the RFM program later, some Lippincott readers were placed in the classrooms during the spring as supplementary materials. Generally, the WIC teachers felt that they had to improvise many materials to implement the program. Based on their reports, there appeared to be a note of frustration that did not exist with the other two experimental treatments.

Peabody Language Development Program

Six teachers in each of the experimental reading treatments used the oral language stimulation materials. The response of these teachers was comparable to the ones who used the experimental edition the previous year. Dunn and Mueller (1966) reported positive feelings concerning use of the program in relation to oral language development, generalization to other aspects of the school curriculum, and stimulation of intellectual processes.

Teachers this year felt that the program was helpful in developing oral expression, in refining speech patterns, and changing the pupil's speech from dull and monosyllabic words to lively and interesting discourse. They felt that this was particularly encouraging as most children come from homes where they had had little opportunity for oral communication between parent and child. Several teachers commented on the effect of the PLDK in promoting group cohesiveness and a sense of belonging, especially with many of the shy immature children. It was felt that the language program complemented the reading, and provided many readiness activities which were badly needed. An outstanding feature of the program was its flexibility so that it could be geared to all children.

Criticisms centered around the length of some lessons, lack of time to get responses from all children, and difficulties with the use of the tape recorder. At the same time, several teachers indicated that they had adapted the lessons to overcome the first two problems. The use of mechanical aids appears to be a problem that plagues teachers, and the project staff has made efforts to ameliorate this problem during the second year of the project.

Children's Response to Experimental Treatments

There was consensus among the teachers that their pupils needed many readiness activities, and that the language development lessons were extremely effective in promoting readiness. In the period before Christmas, there appeared to be much variability among the classes related to progress in reading. This ranged from groups where almost all the children were reading at least short sentences or phrases to groups where the teachers reported little or no such reading. The most optimistic reports came from the ITA and SCRP teachers, while more of the WIC teachers felt that progress was slow.

The period from Christmas to Easter represented a "break through period" for many classrooms. Children had learned the first basic word attack skills, and were applying them in attacking new words that they encountered. In some ITA classes, teachers had a few children whom they felt were ready for transition into TO which would mean they were reading near the third grade level. It was during this period that the WIC group had their most difficult times. The children had not learned the necessary skills to begin independent reading, and the teachers were struggling to determine the direction in which they should go. At this time, the company consultant suggested the use of supplementary readers in addition to the WIC materials.

The period after Easter was marked by considerable progress as reported by the teachers. The majority of the children were apparently making satisfactory progress, but most classes did have a handful of youngsters who were reading little, if any. Again it should be emphasized that the range of progress was great, both among children within a class and between classes.

Impact on the Teachers

The most revealing statement that the teachers could probably make would be couched in terms of their attitude toward future use of the experimental program. The majority of the teachers expressed the desire to utilize their approach after the completion of the experimental study. Others would modify or adapt certain parts of their program. Generally, the teachers felt that it had been a profitable year for them; they had grown in their understanding of the processes needed in teaching reading; they could do a better job of discovering their children's instructional needs; and they were more perceptive to the needs of disadvantaged youngsters. Several teachers, who taught both the oral language lessons and an experimental reading approach, felt that they tried to do too many new things and that this placed an inordinate amount of pressure on them.

Summary

This discussion of the teacher's reports has attempted to present some of their feelings toward the total experimental program. No attempt had been made to list all comments, whether strengths or weaknesses, but only to present a general flavor of the reactions that would be representative of the 27 teacher reports.

In general, the classroom settings were adequate. The children came from an impoverished background and according to formal readiness measures, would be poor risks for success in first grade reading. Much attention was given to readiness-type activities early in the school year. The oral language development lessons were seen as advantageous for numerous reasons. The experimental reading approaches were looked upon favorably; however, this was much less true with the WIC treatment. The children's progress varied considerably. Many made at least adequate progress, while a few showed little growth. The teachers felt that it had been a year in which they had grown in both teaching skills and their understanding of disadvantaged children.

CHAPTER V

SUMMARY AND CONCLUSIONS

There is ample evidence indicating that disadvantaged children enter school with many deficits when compared with children from more favorable environments, and that these deficits lead to progressive retardation as they move through the schools. These factors are especially evidenced in the area of oral and written language. Therefore, today the schools are faced with the challenge of developing improved methods of teaching the disadvantaged in this area of deficit. This Cooperative Reading Project is aimed at finding evidence for meeting this challenge.

The Cooperative Reading Project (CRP) is an outgrowth of an earlier study, the Cooperative Language Development Project (CLDP), which examined the efficacy of one approach to beginning reading, namely, the Initial Teaching Alphabet, and the Peabody Language Development Kits in stimulating oral language and reading achievement with disadvantaged children. Early CLDP findings indicated significant growth for children using these materials in contrast to comparable controls. The problem remained: Were the ITA and PLDK superior due to the materials themselves, or to the extra incentives provided the experimental teachers, or to some combination of the two?

Purpose

The central purpose of this Cooperative Reading Project was to examine, with teacher incentives and support comparable, the relative effectiveness of three approaches to the teaching of beginning reading, and the influence of an oral language stimulation program, on the development of disadvantaged children through their first two years in school, with a one-year follow up. This monograph reports on the first year of the project.

The three experimental reading treatments were: (1) the *Initial Teaching Alphabet* (ITA) used phonetically, (2) the *Words In Color* (WIC) program, and (3) a *Supplemented Conventional Reading Program* (SCRP) using a basic reader plus additional phonics material. Each of the experimental reading approaches is based on the belief that the child should learn certain sound-symbol relationships before beginning to read. Therefore, the treatments would be toward the synthetic end of a continuum running from analytic to synthetic. The SCRP most nearly paralleled the typical basal reader approach. In addition to the reading treatments, some of the experimental classes received an oral stimulation program in the first year utilizing Level #1 of the *Peabody Language Development Kits* (PLDK). It was predicted that: (1) children learning to read through any of the three experimental reading approaches would show significantly greater achievement gains than would children learning to read in a standard primary grade program, (2) children receiving the oral language stimulation exercises in addition to the experimental reading program would show significantly greater gains in oral language, verbal intelligence, and school achievement than would children receiving no oral language stimulation, and (2) children receiving two years of oral stimulation would show significantly greater gains than those children receiving oral language stimulation for only one year (This latter hypothesis is not reported in this monograph since it involves the second year of the study).

Subjects

A total of 608 subjects--547 in the combined experimental groups and 61 controls from 12 public elementary schools in an inner-city area--constituted the subject pool. Since the treatments were administered to _all_ children in a classroom, the treatment groups were neither equal in number nor on certain other important variables. Therefore, a selected sample in which subjects who did not meet specified criteria were deleted, was drawn from this subject pool. This resulted in a selected sample of 480 subjects (240 boys and 240 girls) on which the data were analysed.

The effectiveness of the program was evaluated by means of the Metropolitan Achievement Test, the Illinois Test of Psycholinguistic Abilities, the Peabody Language Production Inventory, and the Stanford-Binet Intelligence Scale. The pretesting was done at the outset of the 1965-66 school year, and the posttesting during the last one and one-half months of the school year.

Procedures

Nine experimental treatment groups were established plus a control group. Each of the nine treatments consisted of three teachers who were committed to keeping their pupils through both of the first two years. _Group 1_ was to use ITA followed by the Lippincott basic reader without PLDK. _Group 2_ was to use ITA followed by the Lippincott basic reader plus one year of PLDK. _Group 3_ was to use ITA followed by the Lippincott basic reader plus two years of PLDK. _Group 4_ was to use WIC followed by the Houghton Mifflin basal reader without PLDK. _Group 5_ was to use WIC followed by the Houghton Mifflin basal reader plus one year of PLDK. _Group 6_ was to use WIC followed by the Houghton Mifflin basal reader plus two years of PLDK. _Group 7_ was to use the SCRP (the Houghton Mifflin basal reader supplemented by the Hay-Wingo phonics materials) without PLDK. _Group 8_ was to use the SCRP plus one year of PLDK. _Group 9_ was to use the SCRP plus two years of PLDK. _Group 10_ was the control group.*

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* Many of the controls were drawn from the only elementary school in the area accredited by the Southern Association of Colleges and Schools. It is possible that the experimental treatments could be expected to do little more than equalize conditions. A re-analysis may be made of the data utilizing controls at schools other than this accredited facility.

Groups 3, 6, 9 (the two year PLDK groups) were not discussed in this report as they are relevant only after the second year of the treatment. For purposes of this interim report, group 3 was combined with 2, group 6 with 5, and group 9 with 8. The teachers and pupils in the control group were not involved in any of the experimental treatments or incentives. They were only visited during the year for pretesting and posttesting. Each treatment had a consultant who visited the experimental classes regularly, and conducted the in-service meetings. The experimental teachers received a small annual $300 stipend for the extra time given to the project. Supplementary materials were furnished for all experimental classes with approximately $300 spent on reading materials in each such class--including the cost of the experimental materials.

Results

The primary statistical procedure involved analyses of variance to compare experimental groups with control groups, with *t* tests to detect differences between subgroups within the experimental treatments. The .95 level of confidence was basic, but the .90 level was also used since this was an intervention study.

The results of the analyses were as follows:

(1) Children who received one year of PLDK treatment made significantly greater IQ gains (.90 level of confidence) than the control children.

(2) In comparing treatment groups, the combination of WIC plus PLDK and SCRP plus PLDK increased children's IQ gains significantly more than the reading treatments alone. However, the ITA plus PLDK children made less IQ gains than those in ITA alone.

(3) There were no significant differences in language age (LA) gains between the total experimental group and the control group. However, within the experimental treatments, those subjects who received PLDK in addition to the reading treatment made significantly greater LA gains than those in the reading treatments alone.

(4) Boys made greater gains in LA than girls. However, the use of PLDK helped both sexes as noted in the paragraph above.

(5) In terms of connected speech production, those children who received PLDK showed significantly greater language ability than the control subjects or the experimental subjects who received no PLDK. In addition, the WIC and SCRP reading treatments were superior on this measure to the ITA treatment groups (both with and without PLDK).

(6) There were no significant differences between the experimental children and control children in reading performance.

(7) However, within the experimental treatments, there was a significant difference on the combined achievement score (average of the three reading subtests) at the .90 level of confidence. Those children who received only the experimental reading treatment were superior to those children who had reading plus PLDK. Most of this difference was accounted for by the extremely superior reading performance of the SCRP only children over the SCRP plus PLDK children.

(8) The total SCRP treatment groups also performed better on the combined achievement score than the WIC or ITA groups. In addition the SCRP and WIC children performed better on the word discrimination subtest than the ITA children.

(9) As was expected, both control and experimental girls were superior to boys on all measures of reading performance.

Conclusion

The conclusions are tentative since they are based on first-year data only, in a two-year intervention program. Also, the school achievement of the ITA children was measured by materials in traditional orthography at a time when about one-half of them had not made the transition. It should also be noted that teachers who taught PLDK in addition to their experimental reading treatment spent an average of 15 minutes less time per day in teaching formal reading.

With the above conditions noted, the results at this time suggest that the PLDK program enhances performance of disadvantaged youngsters only in intellectual growth and in oral language development, and not in school achievement. The combination of ITA and PLDK was less effective than the other treatments. The SCRP experimental treatment was superior at the .90 level to the WIC and ITA treatments, with girls superior to boys in all cases.

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APPENDIXES

Appendix A

Summary of Data

Table 1

Summary of Reference Data by Treatment Group and Sex for Final Sample Pool

			Original Subtest Pool				Final Subtest Pool			
Group	Sex		N	CA	IQ	LA*	N	CA	IQ	LA*
ITA only	Boys	$\bar{X}$	37	75.14	91.92	67.08	32	74.72	92.22	66.38
		S		5.64	15.14	10.33		5.26	14.83	10.17
	Girls	$\bar{X}$	44	74.77	88.11	64.02	40	74.88	88.35	64.38
		S		4.54	13.37	7.57		4.62	13.99	7.46
ITA plus PLDK	Boys	$\bar{X}$	81	74.86	86.14	60.56	65	74.29	87.77	61.60
		S		6.74	12.92	9.72		5.88	12.56	10.27
	Girls	$\bar{X}$	83	73.98	85.14	60.11	63	73.78	84.40	60.97
		S		4.01	13.46	9.13		3.60	11.82	7.70
WIC only	Boys	$\bar{X}$	43	74.12	85.19	60.91	32	73.66	86.66	61.59
		S		3.88	13.46	10.66		3.48	12.66	9.96
	Girls	$\bar{X}$	37	74.27	87.89	63.73	33	73.97	87.42	62.39
		S		3.71	15.48	12.14		3.65	6.72	9.88
WIC plus PLDK	Boys	$\bar{X}$	75	73.25	87.07	63.49	62	73.71	88.06	63.97
		S		5.92	14.29	12.02		4.39	14.10	11.76
	Girls	$\bar{X}$	85	73.18	86.78	61.80	70	73.09	88.77	63.33
		S		3.52	15.73	10.67		3.85	13.53	10.29
SCRP only	Boys	$\bar{X}$	43	75.26	87.60	62.19	29	74.90	88.45	62.62
		S		4.68	16.29	10.38		3.59	16.13	9.15
	Girls	$\bar{X}$	28	76.96	88.68	63.89	19	74.26	94.47	65.16
		S		6.84	13.49	7.58		3.41	12.07	7.71
SCRP plus PLDK	Boys	$\bar{X}$	81	75.53	89.69	63.56	52	75.17	90.12	63.92
		S		5.39	13.77	10.39		5.07	12.30	9.70
	Girls	$\bar{X}$	75	76.32	85.85	61.97	50	75.74	85.18	64.10
		S		6.48	9.92	10.23		6.77	13.62	10.31
Control	Boys	$\bar{X}$	66	74.58	82.29	60.71	30	74.27	82.03	61.43
		S		7.12	11.69	8.67		4.60	10.58	7.53
	Girls	$\bar{X}$	60	74.05	85.95	60.93	31	73.26	85.97	59.68
		S		4.77	13.18	9.92		3.71	13.18	7.85
Total	Boys	$\bar{X}$	426	74.65	86.93	62.43	302	74.36	88.08	63.06
		S		5.90	13.95	10.46		4.82	13.42	10.12
	Girls	$\bar{X}$	412	74.56	86.53	61.92	306	74.11	87.56	62.75
		S		4.95	13.50	9.87		4.47	12.65	9.10

*Reported in months

Table 2

Means and Standard Deviations of Basic Data on Three Areas of Developments of the Final Selected Sample by Treatment Group and Sex

Group	Sex	N		S-B IQ			ITPA LA[1]			MAT[2]		
				Pretest	Posttest	Gain	Pretest	Posttest	Gain	WK	WD	R[3]
ITA only	Boys	25	$\bar{X}$	86.72	93.76	7.04	62.88	70.84	7.96	1.404	1.452	1.572
			S	9.68	9.67		8.38	8.93		.226	.224	.143
	Girls	25	$\bar{X}$	88.96	92.40	3.44	62.64	68.04	5.40	1.876	1.872	1.664
			S	10.55	10.32		7.55	8.30		.596	.655	.474
ITA plus PLDK	Boys	55	$\bar{X}$	87.16	88.80	1.64	61.24	71.04	9.80	1.591	1.567	1.551
			S	9.60	12.10		9.19	8.49		.427	.455	.354
	Girls	55	$\bar{X}$	85.65	86.15	.50	60.91	67.76	6.85	1.514	1.544	1.525
			S	11.34	12.41		7.57	7.93		.391	.442	.325
ITA totals	Boys	80	$\bar{X}$	87.02	90.35	3.33	61.75	70.98	9.23	1.532	1.531	1.588
			S	9.57	11.57		8.92	8.57		.384	.399	.303
	Girls	80	$\bar{X}$	86.69	88.10	1.41	61.45	67.85	6.40	1.628	1.646	1.569
			S	11.14	12.07		7.56	8.00		.491	.536	.380
WIC only	Boys	25	$\bar{X}$	85.80	85.00	-.80	61.20	67.40	6.20	1.408	1.408	1.428
			S	10.24	13.47		9.76	10.32		.281	.347	.228
	Girls	25	$\bar{X}$	83.20	85.04	1.84	60.88	67.48	6.60	1.668	1.736	1.552
			S	12.19	12.49		9.55	10.86		.463	.762	.435
WIC plus PLDK	Boys	55	$\bar{X}$	85.07	87.80	2.73	62.31	73.75	11.44	1.493	1.571	1.460
			S	11.33	15.05		10.34	9.39		.324	.490	.306
	Girls	55	$\bar{X}$	88.04	89.38	1.34	63.33	72.78	9.45	1.578	1.689	1.564
			S	10.43	12.11		10.03	8.85		.373	.566	.360
WIC totals	Boys	80	$\bar{X}$	85.30	86.92	1.62	61.96	71.76	9.80	1.466	1.520	1.450
			S	10.94	14.55		10.11	10.07		.312	.454	.283
	Girls	80	$\bar{X}$	86.52	88.02	1.50	62.56	71.12	8.56	1.606	1.704	1.560
			S	11.16	12.32		9.88	9.77		.402	.629	.382

Table 2 (continued)

Group	Sex	N		S-B IQ			ITPA LA[1]			MAT[2]		
				Pretest	Posttest	Gain	Pretest	Posttest	Gain	WK	WD	R[3]
SCRP only	Boys	15	$\bar{X}$	86.47	88.67	2.20	59.87	71.67	11.80	1.553	1.720	1.613
			S	10.49	12.36		4.14	4.88		.476	.719	.427
	Girls	15	$\bar{X}$	91.73	90.06	-1.67	64.00	72.47	8.47	2.100	2.213	1.833
			S	9.86	11.01		6.02	9.69		.654	.824	.565
SCRP plus PLDK	Boys	40	$\bar{X}$	88.48	93.33	4.85	62.62	73.58	10.96	1.542	1.580	1.472
			S	12.34	14.37		9.65	9.76		.292	.452	.225
	Girls	40	$\bar{X}$	86.30	91.72	5.42	64.00	73.28	9.28	1.598	1.772	1.588
			S	9.46	12.20		7.37	7.96		.284	.484	.173
SCRP totals	Boys	55	$\bar{X}$	87.93	92.05	4.12	61.87	73.05	11.18	1.545	1.618	1.511
			S	11.80	13.90		8.56	8.70		.347	.535	.297
	Girls	55	$\bar{X}$	87.78	91.27	3.49	64.00	73.05	9.05	1.734	1.893	1.654
			S	9.79	11.81		6.97	8.38		.470	.620	.341
Control	Boys	25	$\bar{X}$	82.44	83.64	1.20	60.84	69.36	8.52	1.436	1.484	1.524
			S	11.25	12.04		7.7[illegible]	9.51		.236	.331	.255
	Girls	25	$\bar{X}$	86.32	85.16	-1.16	61.04	68.40	7.36	1.640	1.752	1.596
			S	10.00	7.92		5.73	6.90		.287	.397	.267
Totals	Boys	240	$\bar{X}$	86.18	88.90	2.72	61.75	71.55	9.80	1.503	1.542	1.508
			S	10.80	13.40		9.10	9.23		.342	.445	.292
	Girls	240	$\bar{X}$	86.85	88.50	1.65	62.36	70.19	7.83	1.646	1.733	1.588
			S	10.69	11.80		8.16	8.82		.440	.581	.362

[1] Reported in months; [2] reported in grade equivalent scores; [3] WK--Word Knowledge; WD--Word Discrimination; R--Reading Comprehension

Table 3

Means and Standard Deviations of Mental Age* as Measured by the Stanford-Binet Intelligence Scale of the Selected Sample by Treatment Group and Sex

Group	N		Boys			Girls			Both		
			Pretest	Posttest	Gain	Pretest	Posttest	Gain	Pretest	Posttest	Gain
ITA only	25	$\bar{X}$	65.04	77.56	12.52	66.88	77.40	10.52	66.96	77.49	11.52
		S	7.39	8.37		7.03	8.44		7.20	8.32	
ITA plus PLDK	55	$\bar{X}$	65.47	74.69	9.22	64.35	71.98	7.64	64.91	73.34	8.43
		S	7.09	9.80		7.61	9.61		7.35	9.76	
ITA total	80	$\bar{X}$	65.34	75.59	10.25	65.14	73.68	8.54	65.24	74.36	9.39
		S	7.14	9.42		7.49	9.54		7.29	9.50	
WIC only	25	$\bar{X}$	64.08	71.08	7.00	62.36	71.52	9.16	63.22	71.30	8.08
		S	7.40	10.32		8.40	8.91		7.89	9.54	
WIC plus PLDK	55	$\bar{X}$	63.55	74.00	10.45	65.64	74.62	8.98	64.59	74.31	9.71
		S	7.58	11.19		7.21	9.76		7.44	10.45	
WIC total	80	$\bar{X}$	63.71	73.09	9.38	64.61	73.65	9.04	64.16	73.37	9.21
		S	7.48	10.94		7.70	9.56		7.58	10.24	
SCRP only	15	$\bar{X}$	66.67	75.13	8.47	68.93	75.40	6.47	67.80	75.27	7.47
		S	7.29	8.15		7.77	9.57		7.49	8.73	
SCRP plus PLDK	40	$\bar{X}$	66.52	78.45	11.92	65.20	77.20	12.00	65.86	77.82	11.96
		S	9.09	11.30		6.37	8.62		7.83	10.01	
SCRP total	55	$\bar{X}$	66.56	77.55	10.99	66.22	76.71	10.49	66.39	77.13	10.74
		S	8.57	10.57		6.91	8.83		7.69	9.70	
Control	25	$\bar{X}$	62.25	70.80	8.28	63.92	7.196	8.04	63.32	71.38	8.16
		S	7.81	8.93		7.09	6.19		7.42	7.62	
Total	240	$\bar{X}$	64.78	74.70	9.92	65.08	74.18	9.10	64.93	74.44	9.51
		S	7.74	10.33		7.37	9.16		7.55	9.76	

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*Reported in months

Table 4

Means and Standard Deviations of Posttest Scores on the Peabody Language Production Inventory by Treatment Group and Sex

Group	Boys			Girls			Both		
	N	$\bar{X}$	S	N	$\bar{X}$	S	N	$\bar{X}$	S
ITA only	25	56.32	13.44	25	57.4	12.63	50	56.86	12.92
ITA plus PLDK	55	64.67	14.82	55	65.29	11.17	110	64.98	13.07
Total	80	62.06	14.84	80	62.82	12.13	160	62.44	13.52
WIC only	25	59.64	12.47	25	59.12	11.39	50	59.38	11.82
WIC plus PLDK	55	68.22	13.09	55	70.18	9.01	110	69.20	11.23
Total	80	65.54	13.43	80	66.72	11.03	160	66.13	12.26
SCRP only	15	65.40	7.14	15	61.93	16.01	30	63.67	12.31
SCRP plus PLDK	40	69.22	9.60	40	69.80	9.64	80	69.51	9.56
Total	55	68.18	9.09	55	67.65	12.09	110	67.91	10.65
Control	25	57.64	12.99	25	61.68	13.83	50	59.66	13.44
Total	240	64.16	13.36	240	65.11	12.10	480	64.64	12.74

Table 5

Rank Order of Time Scheduled to Teach Formal Reading for All Teachers in the Cooperative Reading Project

Time	Treatment	Time	Treatment
75	WIC	90	Control
75	WIC plus PLDK	90	Control
75	WIC plus PLDK	95	SCRP plus PLDK
75	WIC plus PLDK	105	WIC plus PLDK
80	WIC plus PLDK	105	Control
85	WIC plus PLDK	105	Control
90	ITA	120	WIC
90	ITA	120	WIC plus PLDK
90	ITA	120	SCRP
90	ITA plus PLDK	120	SCRP plus PLDK
90	ITA plus PLDK	120	SCRP plus PLDK
90	ITA plus PLDK	120	Control
90	ITA plus PLDK	120	Control
90	ITA plus PLDK	120	Control
90	WIC	120	Control
90	SCRP	120	Control
90	SCRP plus PLDK	120	Control
90	SCRP plus PLDK	120	Control
90	SCRP plus PLDK	145	SCRP
90	Control		

Table 6

Matrices of Means of All Groups Used in the Analyses of Variance

	Boys			Girls			Total		
	With PLDK	Without PLDK	Total	With PLDK	Without PLDK	Total	With PLDK	Without PLDK	Total
Intelligence Quotient Gains									
ITA	1.64	7.04	3.32	.49	3.44	1.41	1.07	5.24	2.37
WIC	2.73	-.80	1.62	1.35	1.84	1.50	2.03	.52	1.50
SCRP	4.85	2.20	4.13	5.42	-1.67	3.49	5.13	.27	3.81
Experimental	2.89	2.91	2.90	2.12	1.65	1.98	2.50	2.28	2.44
Control	-	-	1.20	-	-	-1.16	-	-	.02
Total	-	-	2.75	-	-	1.65	-	-	2.19
Mental Age Gains									
ITA	9.22	12.52	10.25	7.64	10.52	8.54	8.43	11.52	9.39
WIC	10.45	7.00	9.38	8.98	9.16	9.04	9.71	8.08	9.21
SCRP	11.92	8.47	10.98	12.00	6.47	10.49	11.96	7.49	10.74
Experimental	10.39	9.46	10.11	9.29	9.06	9.22	9.84	9.26	9.67
Control	-	-	8.28	-	-	8.04	-	-	8.16
Total	-	-	9.92	-	-	9.10	-	-	9.51

Table 6 (continued)

Matrices of Means of All Groups Used in the Analyses of Variance

Language Age Gains

	Boys			Girls			Total		
	With PLDK	Without PLDK	Total	With PLDK	Without PLDK	Total	With PLDK	Without PLDK	Total
ITA	9.80	7.96	9.22	6.85	5.40	6.40	8.33	6.68	7.81
WIC	11.44	6.20	9.80	9.45	6.60	8.56	10.44	6.40	9.18
SCRP	10.95	11.80	11.18	9.28	8.47	9.05	10.11	10.13	10.12
Experimental	10.71	8.70	9.94	8.45	6.57	7.88	9.58	7.37	8.91
Control	-	-	8.52	-	-	7.36	-	-	7.94
Total	-	-	9.80	-	-	7.83	-	-	8.81

Word Knowledge Grade Equivalent Scores

	Boys			Girls			Total		
	With PLDK	Without PLDK	Total	With PLDK	Without PLDK	Total	With PLDK	Without PLDK	Total
ITA	1.59	1.40	1.53	1.49	1.88	1.61	1.54	1.64	1.57
WIC	1.49	1.41	1.47	1.58	1.67	1.61	1.54	1.54	1.54
SCRP	1.54	1.55	1.55	1.60	2.10	1.73	1.57	1.83	1.64
Experimental	1.54	1.44	1.51	1.55	1.85	1.64	1.55	1.64	1.58
Control	-	-	1.44	-	-	1.64	-	-	1.54
Total	-	-	1.50	-	-	1.65	-	-	1.58

Table 6 (continued)

Matrices of Means of All Groups Used in the Analyses of Variance

	Boys			Girls			Total		
	With PLDK	Without PLDK	Total	With PLDK	Without PLDK	Total	With PLDK	Without PLDK	Total
Word Discrimination Grade Equivalent Scores									
ITA	1.57	1.45	1.53	1.53	1.88	1.63	1.55	1.66	1.58
WIC	1.57	1.41	1.52	1.69	1.74	1.70	1.63	1.57	1.61
SCRP	1.58	1.72	1.62	1.77	2.21	1.89	1.68	1.97	1.76
Experimental	1.57	1.50	1.55	1.65	1.90	1.73	1.61	1.70	1.64
Control	-	-	1.48	-	-	1.75	-	-	1.62
Total	-	-	1.54	-	-	1.73	-	-	1.64
Reading Grade Equivalent Scores									
ITA	1.55	1.57	1.56	1.51	1.67	1.56	1.53	1.62	1.56
WIC	1.46	1.43	1.45	1.56	1.55	1.56	1.51	1.49	1.50
SCRP	1.47	1.61	1.51	1.59	1.83	1.65	1.53	1.72	1.58
Experimental	1.50	1.53	1.51	1.55	1.66	1.58	1.52	1.59	1.54
Control	-	-	1.51	-	-	1.60	-	-	1.56
Total	-	-	1.51	-	-	1.59	-	-	1.55

Table 6 (continued)

Matrices of Means of All Groups Used in the Analyses of Variance

Average Reading Performance Grade Equivalent Scores

	Boys			Girls			Total		
	With PLDK	Without PLDK	Total	With PLDK	Without PLDK	Total	With PLDK	Without PLDK	Total
ITA	1.57	1.48	1.54	1.51	1.81	1.60	1.54	1.64	1.57
WIC	1.51	1.41	1.48	1.61	1.65	1.62	1.56	1.53	1.55
SCRP	1.53	1.63	1.56	1.65	2.05	1.76	1.59	1.84	1.66
Experimental	1.54	1.49	1.52	1.58	1.80	1.65	1.56	1.65	1.59
Control	-	-	1.48	-	-	1.66	-	-	1.57
Total	-	-	1.52	-	-	1.66	-	-	1.59

Peabody Language Production Inventory Raw Scores

	Boys			Girls			Total		
	With PLDK	Without PLDK	Total	With PLDK	Without PLDK	Total	With PLDK	Without PLDK	Total
ITA	64.67	56.32	62.06	62.29	57.40	62.82	64.98	56.86	62.44
WIC	68.22	59.64	65.54	70.18	59.12	66.72	69.20	59.38	66.13
SCRP	69.22	65.40	68.18	69.80	61.93	67.65	69.51	62.67	67.92
Experimental	67.19	59.69	64.92	68.29	59.11	65.51	67.74	59.40	65.22
Control	-	-	57.64	-	-	61.68	-	-	59.66
Total	-	-	64.16	-	-	65.12	-	-	64.64

Appendix B

Teacher Rating Schedule,
Occupational Guidelines, and
Outline of Teacher's Annual Report

COOPERATIVE READING PROGRAM
Teacher Rating Schedule

Teacher ______________ School ________________

Approach ______________ Observer ________________ Date __________

Time: Observation began _________ ended ___________

1. Overall Rating

poor	fair	satisfactory	good	excellent

Comments:

2. Classroom Control--Psychological

chaotic	disorderly	supportive	fairly inflexible	authoritarian

Comments:

3. Classroom Control--Instructional (appropriate use of time)
(Purposeful independent activities)

very few children	some children	about half the children	most children	all children

Comments:

Teacher Rating Schedule (continued)

4. Reading Instruction

poor	fair	satisfactory	good	excellent

Comments:

5. Instructional Level

too easy		appropriate		too difficult

Comments:

6. Lesson Objectives

obscure		fairly clear		clear

Comments:

7. Pupil Materials Used: (List)

8. Teacher Materials Used: (List)

9. Non-approach Materials Observed:

Teacher Rating Schedule (continued)

10. Pupil motivation and interest in the reading program

________ poor   ________ fair   ______________ satisfactory   ________ good   ___________ excellent

Comments:

11. Teacher motivation and interest in the reading program

________ poor   ________ fair   ______________ satisfactory   ________ good   ___________ excellent

Comments;

PEABODY CULTURAL OPPORTUNITY SCREENING SCALE 65-66 Rev.

GUIDELINES

I. Housing Conditions: check the one item which best describes the dwelling unit in which the child resides.

II. Child Rearing

A. 1. Responsibility: check the one item which best describes the person who is in charge of raising the child. If this person holds some other relationship to the child than those offered (e.g. foster mother, father) specify that relationship.

2. Age: check the age range within which II.A.1. falls.

3. Education: circle the number indicating the highest grade completed by II.A.1. Numbers 1, 2, 3 and 4 following the (u) indicate the number of undergraduate years completed and 1, 2, and 3 after the (g) indicate the graduate years.

4. Employment: check both whether II.A.1. works outside the home and the item which best describes the number of days II.A.1. is engaged in such employment during the week.

B. 1. Father: check the one person who acts as the male surrogate to the child. If this person falls in some category not listed, specify their relationship to the child (e.g. friend, uncle).

III. General Family Information

A. 1. Number of persons: circle the total number of adults and children, including the pupil, who reside in the same dwelling unit as the child.

B. 1. Number of rooms: circle the number of rooms which make up the living quarters of the dwelling unit in which the child lives, remembering to exclude halls, closets, ect.

C. 1. Education: circle the number indicating the highest grade completed by III.A.1.

2. Relationship: check the item which gives the relationship of III.C.1. to the child. If this person holds some other relationship to the child than those offered (e.g. grandmother, friend) specify that relationship.

IV. Family Income

A. 1. Welfare: if the family has received any public assistance in the last year, check ______yes.

Peabody Cultural Opportunity Screening Scale (continued)

B. 1. Combined gross annual income: check the range within which the sum of all the money earned or received by all members of the family in the last year falls. Remember to include public assistance of any kind.

C. 1. Main wage earner: check the item which indicates which member of the family had the largest income last year.

OCCUPATION CLASSIFICATIONS

(primarily derived from the Dictionary of Occupational Titles and its companion book on occupational classifications)

Private household service workers

Private household service workers are involved primarily with the maintenance of homes, their grounds, etc. They are engaged in tasks associated with, for example, cooking meals, caring for children, or caring for the house or yard.

dayworker
houseman
maid
yardman
laundress
butler
cook
companion
housekeeper
nursemaid
babysitter
caretaker

Non-household personal service workers

Personal service workers are involved primarily with services which are given directly to people, hence a major defining characteristic of the work performed by them is that they are in direct contact with the persons to whom they render service and that this service is often designed to make them more comfortable.

barmaid
cook
bartender
waitress
bellhop
kitchen worker
hospital attendant
hotel or motel maid
counterman

Community service workers

Community service workers are involved primarily with services rendered to the community.

crossing guard
attendant
social worker
meter maid
night watchman
postman
policeman
fireman
probation officer

Peabody Cultural Opportunity Screening Scale (continued)

Non-household maintenance service workers

Non-household maintenance service workers are primarily involved in the upkeep of businesses and industrial property. This would include the grounds as well as the physical plant and the equipment of such organizations.

cleaning woman
porter
park keeper
janitor
busboy
road repairman
elevator operator
refuse collector
street cleaner

Day laborers

Day laborers perform simple duties which may be learned in a short time and which require the exercise of little or no independent judgment. Usually no previous experience is required for such employemnt. They are unskilled.

car washer
industrial worker
tobacco picker
food handler
truck loader
shop helpers
construction worker
parking lot attendant
stock boy (in a supermarket, etc.)

Semi-skilled laborers

Semi-skilled laborers perform manual tasks which are less dependent upon dexterity than on vigilance and alertness. They exercise independent judgment which is limited to their task and no broad knowledge of their field is required. Their tasks generally require a high order of manipulative ability and are limited to a well defined work routine.

laundry worker
chauffeur
route man
signalman
truck driver
delivery man
sewing machine operator
coin machine filler
service station attendant

Skilled workers

Skilled workers perform tasks which require a thorough and comprehensive knowledge of the field in which they work, a considerable judgment and a high degree of dexterity. Often they are responsible for the care of valuable equipment. Their jobs usually require extensive training; e.g. apprenticeships or schooling.

dressmaker
auto mechanic
plumber
butcher
seamstress
welder
sheet metal worker
chief baker
bricklayer
painter
photographer
bookbinder

Peabody Cultural Opportunity Screening Scale (continued)

Clerical and sales workers

Clerical and sales workers' duties involve the preparation, transcribing, transferring, systematizing, or preserving of written communications and records in offices, shops, etc.

saleswoman
bookkeeper
cashier
office clerk
timekeeper
telegraph messenger
office machine operator
telephone operator
shipping and receiving clerk

Professional, technical and managerial workers

Professional, technical and managerial workers' occupations require a high degree of mental activity and are concerned with the theoretical or practical aspects of complex fields of endeavor. They require extensive and comprehensive academic study and/or great experience.

nurse
doctor
lawyer
teacher
accountant
electrical engineer
musician
laboratory technician
office or business manager

Tentative Outline of Teacher's Annual Report 1965-66

I. General Observations of the Class

This section should describe:

1. the type of classroom you have had this year (size, light, equipment, noise level, etc.);
2. the pupils in your class (numbers, sex distribution, pupil drop-outs and additions, the socio-economic conditions of the children, etc.); and
3. the classroom atmosphere and some of the factors which may have accounted for it.

II. Experimental Method of Teaching Reading Employed

This section should describe how you have taught reading this year. Included should be a description of teaching aids, prescribed text or supplementary book, etc. which were used.

III. Experimental Language Development Activities (if used)

This section should be completed by only those teachers using the Peabody Language Development Kit. Included in this section might be a discussion of the strengths, weakenesses and usefulness of the PLDK.

IV. Observation of the Class Responses to the Experimental Treatment(s)

This section should give your observation and evaluation of the effect of the experimental treatment upon the childrens' language and intellectual behavior. It should be divided into four subsections. The first subsection should cover the period from the beginning of the school year till the Christmas holidays, the second subsection the period between the Christmas holidays and the Easter vacation, and the third subsection the rest of the school year. The last subsection should give an overall evaluation and conclusion.

V. Impacts Upon the Teacher

This section is for you to describe the impacts of the experimental program upon your professional outlook, skills and attitude whether positive or negative. Tell frankly what you think of the treatments and what, if anything, you would use from them in your future years of teaching after the experiment is over.

Appendix C

Raw Data

APPENDIX C

RAW DATA

Number	Variable
1.	Chronological Age *
2.	Stanford-Binet Intelligence Quotient
3.	Stanford-Binet Mental Age *
4.	Illinois Test of Psycholinguistic Abilities Standard Score
5.	Illinois Test of Psycholinguistic Abilities Language Age *
6.	ITPA: Auditory-Vocal Automatic LA
7.	ITPA: Visual Decoding LA
8.	ITPA: Motor Encoding LA
9.	ITPA: Auditory-Vocal Association LA
10.	ITPA: Visual Motor Sequencing LA
11.	ITPA: Vocal Encoding LA
12.	ITPA: Auditory-Vocal Sequencing LA
13.	ITPA: Visual-Motor Association LA
14.	ITPA: Auditory Decoding LA
15.	Peabody Language Production Inventory Raw Score
16.	Metropolitan Achievement Test: Word Knowledge Grade Equivalent Score
17.	MAT: Word Discrimination Grade Equivalent Score
18.	MAT: Reading Grade Equivalent Score
19.	MAT: Arithmetic Grade Equivalent Score

*Age scores are recorded in months

Group I: ITA only

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
1	2	79	93	74	-.60	73	60	70	60
		87	90	80	-.16	81	82	70	82
2	1	68	90	62	-.35	64	69	70	76
		77	100	77	.52	82	78	66	70
3	1	75	88	67	-2.53	61	69	75	55
		82	92	76	-.92	73	82	94	70
4	1	75	96	72	-1.10	70	51	94	65
		82	99	82	-.56	77	55	105	50
5	1	73	111	80	1.29	82	78	80	104
		80	124	98	.08	79	82	87	95
6	2	79	79	64	-2.22	63	64	75	64
		86	94	82	-2.60	61	51	75	33
7	1	74	76	58	-1.55	61	33	75	95
		83	88	74	-1.33	69	46	80	88
8	2	74	88	66	-2.07	57	73	80	33
		81	94	77	-1.91	64	87	70	42
9	1	76	112	84	-.73	72	91	70	104
		83	114	94	-.16	81	105	75	88
10	1	81	104	84	-.02	71	82	94	55
		76	116	87	-.42	75	64	87	82
11	1	71	103	73	-.64	67	46	70	46
		78	97	76	-1.79	66	60	75	35
12	2	79	75	61	-1.04	70	78	66	104
		86	89	78	-2.96	65	55	87	70
13	2	70	126	86	-.53	67	69	70	50
		77	130	98	1.01	87	114	87	55
14	1	78	80	64	-2.60	61	55	57	50
		85	80	70	-2.36	60	55	80	33
15	1	80	116	92	-.29	76	100	105	55
		87	100	88	-.43	88	100	105	104
16	2	79	112	88	-.04	78	55	80	55
		86	97	84	-.16	81	64	66	50
17	2	69	92	64	-2.63	54	55	70	50
		76	90	69	-1.60	67	73	94	42
18	2	69	89	62	-2.01	58	51	75	46
		77	96	74	-1.41	68	73	75	60
19	1	77	90	70	-2.16	63	64	49	104
		84	89	76	-.92	73	69	94	70
20	2	71	92	66	-3.00	47	37	40	35
		80	81	66	-2.85	59	37	66	50
21	2	70	78	56	-2.81	52	42	32	42
		77	87	68	-3.00	46	42	32	46
22	1	71	114	80	.95	79	87	75	104
		79	98	78	-.04	78	87	75	82
23	2	73	93	68	-.36	69	73	80	88
		81	78	65	-.88	73	55	66	88

9	10	11	12	13	14	15	16	17	18	19
63	81	107	88	69	77	53	1.6	1.7	1.3	
82	108	61	94	69	95	42	1.5	1.5	1.2	1.4
59	76	79	58	61	49	63	1.5	1.2	1.5	
92	72	72	102	69	106	42	1.2	1.0	1.7	1.0
56	55	76	67	44	55	53	1.2		1.2	
73	61	83	84	65	62	71	1.3	1.2	1.5	1.0
66	64	61	75	90	74	66	1.7	1.8	1.5	
78	88	83	94	73	81	66	1.1	1.5	1.7	1.0
78	68	76	94	94	74	52	1.9	2.3	1.7	
82	64	61	94	90	74	69	1.7	1.7	1.5	1.7
63	88	46	67	65	53	49	1.5	1.6	1.6	
66	64	42	88	56	65	23	1.6	1.7	1.7	1.2
50	68	88	47	48	57	62	1.2	1.1	1.5	
66	81	61	55	86	74	59	1.1	1.2	1.7	1.0
63	55	49	48	56	57	39	1.3	1.4	1.5	
70	61	68	64	69	53	59	1.5	1.3	1.3	1.1
78	61	68	102	56	57	67	1.3	1.5	1.1	
82	81	76	79	52	106	63	1.2	1.4	1.4	1.2
70	64	79	71	73	65	65	1.5	1.4	1.4	
82	64	53	75	73	106	68	1.3	1.4	1.7	1.7
66	76	57	102	69	60	53	1.6	1.8	1.5	
73	55	49	102	90	53	59	1.4	1.4	1.5	1.0
63	94	61	79	73	53	62	1.6	1.2	1.2	
66	64	46	61	61	81	42	1.4	1.3	1.1	1.0
66	61	88	84	69	57	53	2.2	2.8	1.8	
99	61	76	79	107	106	67	2.2	2.1	1.6	1.7
44	64	72	71	65	62	62	1.5	1.4	1.3	
63	68	57	71	61	55	55	1.1	1.5	1.5	1.0
82	72	49	84	99	62	52	3.2	2.5	1.6	
78	72	88	79	82	90	51	1.9	1.8	1.5	1.6
87	72	107	102	82	68	63	2.2	3.1	1.8	
87	108	93	102	86	74	48	2.1	2.2	1.6	1.7
34	55	38	47	61	71	50	1.7	1.8	1.4	
70	76	68	52	86	57	51	1.5	1.8	1.2	1.0
59	72	53	71	48	44	62	1.5	1.5	1.2	
63	72	68	75	78	57	64	1.4	1.5	1.5	1.0
44	55	68	84	65	60	62	1.3	1.5	1.6	
70	58	72	61	78	106	67	1.2	1.2	1.5	1.0
44	55	38	75	48	40	32	1.4	1.4	1.5	
53	64	68	79	48	57	68	1.4	1.1	1.5	1.0
39	64	61	75	69	51	53	1.0	1.0	1.1	
39	44	57	61	35	51	53	1.0	1.0	1.1	1.0
70	61	76	102	94	65	54	1.3	1.4	1.5	
78	72	83	102	65	68	57	1.6	1.4	1.6	1.0
59	72	64	84	65	57	63	1.4	1.4	1.6	
70	76	107	75	86	62	66	1.5	1.5	1.7	1.0

Group I: ITA only (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
24	1	80	85	69	-2.53	61	69	66	46
		88	100	89	-1.24	79	91	75	65
25	1	72	131	92	1.69	86	78	75	76
		80	116	92	.14	79	87	66	60
26	1	69	99	68	-2.01	58	46	66	65
		77	96	74	-2.04	64	42	105	65
27	2	80	91	74	-1.28	69	60	62	46
		88	94	84	-1.34	78	64	53	76
28	2	79	94	75	-.79	72	73	66	60
		86	97	84	-1.33	69	69	80	46
29	1	71	99	70	-.76	66	42	57	65
		80	97	78	-.67	73	78	66	55
30	1	73	97	71	-1.33	62	46	70	70
		81	88	72	-1.51	67	73	75	76
31	2	76	68	54	-3.00	57	33	80	55
		83	77	67	-1.82	65	55	70	82
32	1	70	76	55	-.81	66	37	44	76
		79	82	66	-1.60	67	60	49	46
33	2	78	80	64	-3.00	46	28	53	33
		87	79	71	-3.00	52	33	57	46
34	1	78	98	77	.52	82	60	80	70
		86	114	98	1.19	102	82	105	88
35	2	71	75	55	-2.35	55	46	75	38
		79	79	64	-2.72	60	51	70	42
36	1	72	74	55	-3.00	50	28	49	46
		80	86	70	-1.54	67	42	87	42
37	2	68	95	65	.04	72	60	75	104
		77	83	65	.64	84	78	75	50
38	2	77	96	74	-1.97	64	51	53	50
		86	82	72	-1.19	70	69	75	46
39	2	70	86	61	-1.14	63	42	66	55
		78	91	72	-1.04	70	87	44	50
40	2	75	91	69	-1.85	65	46	80	88
		84	94	80	-1.15	71	69	53	55
41	2	76	103	78	-1.35	68	73	66	50
		83	90	76	-.70	75	91	62	65
42	2	81	81	67	-1.73	66	51	62	55
		88	94	84	-1.67	75	78	80	55
43	1	67	92	62	-1.95	52	42	87	42
		76	77	60	-1.91	65	55	75	60
44	1	78	84	67	-1.66	66	46	80	65
		87	93	82	-1.29	79	69	87	76
45	2	79	95	76	-1.41	68	37	62	82
		88	94	84	-1.67	75	51	75	82
46	2	72	97	70	-1.78	71	33	87	38
		81	93	76	-.88	73	60	75	55

9	10	11	12	13	14	15	16	17	18	19
59	76	49	58	61	62	45	1.7	1.8	1.6	1.6
78	76	79	94	82	77	59	1.4	1.6	1.6	
99	108	76	84	99	77	68	2.9	3.6	1.7	1.6
99	68	107	75	82	85	69	2.1	2.0	1.6	
63	61	53	47	52	62	65	1.3	1.2	1.2	1.0
73	81	57	58	61	55	45	1.1	1.2	1.2	
70	81	72	75	90	71	63	1.9	3.6	1.8	1.6
75	94	107	88	94	65	57	1.8	1.9	1.0	
82	101	68	102	52	53	30	1.9	3.6	1.6	1.7
87	81	76	94	48	55	62	1.9	2.2	1.9	
66	58	68	84	94	62	63	1.6	1.6	1.5	1.3
82	68	64	102	78	65	37	1.6	1.6	1.5	
73	58	46	75	65	57	33	1.5	1.7	1.6	1.0
73	68	61	64	78	55	52	1.5	1.5	1.4	
56	52	53	64	52	57	28	1.8	2.2	1.4	1.3
70	61	53	75	73	55	43	1.7	1.6	1.2	
59	68	49	67	86	106	67	1.6	1.7	1.6	1.0
82	68	76	102	40	62	54	1.5	1.4	1.6	
32	55	46	58	73	42	31	1.4	1.3	1.5	1.0
47	72	46	64	61	40	66	1.5	1.1	1.2	
82	108	88	102	82	68	67	2.0	3.6	2.6	1.0
87	81	107	102	107	74	80	1.4	1.2	1.6	
39	68	64	55	65	51	31	1.6	1.6	1.3	1.0
66	72	49	71	65	51	58	1.3	1.3	1.5	
56	50	38	71	48	51	56	1.4	1.6	1.5	1.1
66	81	57	102	69	62	26	1.4	1.3	1.5	
78	88	83	79	56	51	86	1.8	1.9	1.6	1.2
87	76	107	102	90	77	70	1.8	1.5	1.4	
70	76	83	75	44	68	32	1.7	2.2	1.2	1.4
78	68	79	71	78	71	65	1.6	1.6	1.5	
66	76	80	79	52	57	53	2.4	3.6	2.9	1.6
73	76	107	94	65	55	60	3.2	3.1	2.5	
70	64	61	61	82	53	67	2.1	3.9	2.2	1.4
87	76	79	84	52	81	68	2.4	2.8	1.8	
73	64	79	75	61	71	71	1.5	2.0	1.5	1.5
87	76	88	75	69	71	69	1.7	1.5	1.3	
73	76	64	58	94	60	45	2.7	3.9	3.0	1.7
75	88	83	67	86	65	60	2.7	3.1	2.0	
42	44	49	58	65	49	34	1.2	1.3	1.7	1.0
53	72	72	75	69	55	63	1.1	1.3	1.7	
50	81	57	61	78	85	62	1.9	1.9	2.1	1.4
82	88	107	75	86	62	71	1.8	1.7	1.7	
78	108	79	55	65	60	57	2.7	3.9	2.5	2.0
78	108	107	67	48	68	65	2.7	2.1	2.3	
63	64	76	64	52	53	59	1.6	1.9	1.5	1.4
73	81	107	79	78	62	67	1.7	1.6	1.5	

Group I: ITA only (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
47	2	78	76	61	-2.22	63	51	49	55
		75	90	68	-1.83	74	73	62	88
48	2	70	91	64	-.76	66	37	44	46
		79	93	74	-.60	73	55	70	46
49	2	77	80	63	-2.29	63	46	57	46
		86	87	76	-.16	81	73	75	65
50	2	74	82	62	-.19	70	46	62	76
		83	86	73	-1.01	72	42	75	82
51	1	78	114	88	-.11	77	78	87	60
		87	120	104	-.97	82	64	80	70
52	2	70	91	64	-1.10	64	78	57	70
		78	100	78	-1.85	65	55	75	35
53	1	68	85	59	-1.27	57	42	87	46
		77	101	78	-2.22	63	42	75	65
54	2	76	65	52	-3.00	54	46	66	38
		81	78	65	-2.73	57	46	57	42
55	1	70	79	57	-3.00	48	42	40	60
		80	87	71	-3.00	58	55	66	55
56	2	77	107	82	-1.79	66	55	75	65
		86	106	92	-1.99	72	78	94	38
57	2	76	83	64	-2.60	61	55	57	55
		84	86	74	-1.55	67	69	80	33
58	1	78	79	63	-2.47	62	33	66	50
		88	104	92	-1.77	74	73	80	55
59	1	71	78	58	-1.90	58	28	66	60
		81	93	76	-1.51	67	37	66	65
60	1	77	86	67	.77	85	96	80	70
		85	100	86	-1.15	71	64	75	46
61	2	76	46	73	-.60	73	69	94	76
		83	108	90	.29	87	105	87	60
62	2	67	108	72	-.50	63	51	53	66
		77	110	84	-1.23	69	69	94	55
63	2	74	103	76	.32	74	91	53	104
		82	107	88	.29	87	69	87	82
64	1	94	85	82	-1.13	80	100	75	104
		102	92	96	-2.49	76	78	66	60
65	2	91	75	70	-3.00	63	33	57	65
		100	76	78	-3.00	62	28	62	60
66	2	70	102	71	.04	72	46	49	104
		79	112	88	-.85	72	78	62	65
67	1	78	75	60	-2.35	62	37	49	50
		88	80	72	-3.00	64	60	62	42
68	2	76	87	67	-1.54	67	60	94	76
		84	97	82	-.70	66	64	66	46
69	2	75	81	62	-.67	73	73	87	65
		84	89	76	-.97	72	51	70	60

9	10	11	12	13	14	15	16	17	18	19
56	64	57	61	69	106	42	2.9	3.1	1.7	
66	76	68	102	65	71	70	2.4	3.1	1.8	1.9
73	64	68	102	78	57	46	1.7	1.8	1.5	
78	88	107	79	69	60	66	1.7	1.4	1.2	1.5
53	64	79	102	48	53	85	2.4	3.1	2.2	
78	72	107	102	94	57	65	1.9	2.8	2.0	1.3
59	64	107	94	73	65	55	1.8	2.1	1.6	
82	76	107	64	61	68	62	1.5	1.5	1.5	1.3
70	81	107	71	82	65	64	3.2	3.9	3.0	
73	108	107	88	61	65	69	2.2	3.1	2.3	2.6
56	70	64	67	44	60	51	1.6	2.4	1.4	
73	72	76	88	52	60	69	1.4	1.5	1.7	1.6
50	68	57	45	65	60	27	1.6	2.5	1.4	
63	76	53	45	90	65	44	1.7	1.7	1.5	1.0
39	52	79	55	61	53	41	1.4	1.4	1.6	
44	58	79	55	69	60	72	1.3	1.2	1.6	1.0
47	50	38	45	56	57	75	1.3	1.2	1.7	
56	58	64	39	82	57	67	1.3	1.5	1.6	1.0
73	58	72	79	48	65	69	2.9	3.1	3.7	
78	64	76	88	69	65	54	2.7	2.6	2.6	2.2
53	55	64	64	65	71	50	2.7	3.1	1.9	
73	58	61	71	94	71	39	1.8	2.0	1.7	2.1
66	58	72	79	82	49	29	2.1	3.6	1.7	
78	64	88	79	78	77	57	1.7	2.0	1.6	1.8
50	68	53	64	99	44	30	1.8	2.0	2.0	
78	81	61	58	94	71	27	1.7	1.5	1.5	1.0
82	94	79	102	61	65	44	1.6	2.6	1.4	
78	88	83	102	61	57	53	1.7	1.7	1.8	1.0
70	72	72	94	84	51	40	3.2	3.6	2.1	
87	101	107	94	73	65	68	2.1	2.4	1.8	1.8
66	58	107	67	69	55	60	1.9	2.8	2.0	
70	72	107	71	56	55	74	1.8	2.2	1.8	1.8
59	58	88	102	73	62	75	3.2	3.9	3.0	
87	94	83	102	86	106	75	2.4	2.5	2.3	1.4
78	81	76	67	99	62	54	2.9	3.6	2.1	
78	88	76	88	90	71	60	2.2	2.3	1.9	2.4
59	52	93	61	82	62	77	1.6	1.9	1.7	
70	72	93	47	82	55	65	1.5	1.5	2.0	1.0
78	108	79	88	73	53	68	2.9	3.6	3.7	
82	64	76	107	73	55	55	3.2	3.1	2.7	1.6
50	50	68	102	78	77	48	1.5	2.2	1.6	
50	58	83	84	86	55	57	1.4	1.4	1.8	1.0
78	55	72	67	73	53	64	2.2	2.8	1.9	
78	55	68	67	90	65	44	2.1	2.4	1.9	1.9
82	108	64	79	69	55	27	1.9	2.8	1.9	
87	94	79	84	73	65	46	1.9	2.2	1.7	1.8

Group I: ITA only (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
70	2	74	88	66	-3.00	59	51	53	42
		84	112	94	-1.37	69	46	57	50
71	1	76	83	64	-2.10	64	51	66	70
		85	95	82	-.97	72	60	80	70
72	1	72	72	54	-2.46	55	33	66	46
		82	90	75	-1.96	64	60	75	42

Group II: ITA plus PLDK

1	2	68	69	49	-2.73	46	51	53	33
		77	83	65	-2.29	63	73	49	46
2	1	70	123	84	.15	72	51	66	60
		78	97	76	.33	81	60	80	60
3	1	74	79	60	-1.54	67	42	87	76
		84	95	81	-.29	80	87	94	70
4	1	72	85	62	-.99	64	46	80	65
		80	94	76	-.60	73	69	94	50
5	2	73	94	69	-.02	71	46	94	104
		81	114	92	-.29	80	87	87	70
6	1	70	94	66	-.98	60	42	80	95
		79	98	78	-1.54	67	55	66	82
7	1	80	100	80	-.60	73	64	70	50
		89	114	102	-1.29	79	91	70	55
8	1	75	96	72	-1.73	66	69	57	76
		83	101	84	-1.51	67	64	64	82
9	1	86	92	80	-.16	81	87	75	82
		94	94	90	-1.56	76	87	87	70
10	2	71	96	68	-.76	66	73	57	42
		79	117	92	.02	78	87	57	46
11	1	75	103	77	-.43	78	82	75	82
		83	119	98	-.52	77	87	94	70
12	2	70	110	76	-.99	64	46	53	104
		77	101	78	-.54	74	64	80	42
13	2	82	78	66	-1.91	64	46	80	104
		90	65	61	-3.00	63	42	70	55
14	1	75	87	66	-3.00	55	60	49	55
		83	88	74	-1.37	69	64	75	50
15	1	79	73	60	-3.00	55	37	44	46
		87	78	70	-1.94	73	64	80	70

9	10	11	12	13	14	15	16	17	18	19
53	64	76	55	48	55	68	1.7	3.6	1.7	
66	88	83	58	69	106	31	1.7	1.5	1.5	1.6
52	61	68	71	52	68	66	1.8	2.4	1.5	
66	94	88	75	65	68	67	1.7	1.7	1.3	1.8
42	64	76	55	56	51	75	1.7	1.5	1.4	
70	64	88	67	56	53	62	1.4	1.6	1.6	1.0

44	44	57	55	31	44	42	1.5	1.4	1.2	
59	72	53	61	56	85	67	1.3	1.3	1.6	1.0
70	52	107	102	52	65	51	1.3	1.4	1.1	
82	61	107	102	82	55	73	1.1	1.0	1.2	1.1
70	61	76	64	78	62	46	1.6	1.9	1.5	
87	81	79	102	69	62	64	1.6	1.6	1.5	1.3
59	64	93	50	78	57	53	1.7	2.0	1.2	
78	72	79	67	78	81	66	1.6	1.5	1.6	1.0
66	52	68	102	94	55	81	1.5	1.3	1.5	
78	76	107	79	106	62	72	1.6	1.4	1.5	1.0
59	64	27	45	86	60	62	1.6	2.0	1.6	
63	61	72	43	86	107	69	1.5	1.5	1.3	1.0
82	61	72	102	82	81	57	1.7	2.5	1.7	
87	76	57	102	82	62	68	1.8	1.7	1.7	2.2
66	61	107	67	65	51	79	1.7	1.2	1.5	
78	52	83	58	69	68	69	1.2	1.4	1.6	1.1
87	81	107	71	65	95	61	1.6	1.7	1.3	
73	76	107	67	69	60	70	1.5	1.4	1.8	1.1
63	61	64	75	82	74	54	2.9	3.6	1.7	
92	101	68	102	82	81	62	1.8	2.4	1.6	1.8
87	61	107	88	52	85	65	2.0	2.5	1.2	
82	68	79	94	56	77	68	1.5	1.3	1.4	1.4
82	50	57	71	56	74	58	1.8	2.6	1.7	
82	68	68	102	56	106	52	1.7	1.4	1.2	1.1
66	55	61	71	65	53	61				
56	58	64	71	86	60	67	1.3	1.0	1.0	1.0
47	55	72	61	48	49	62	1.9	2.1	1.3	
66	76	107	64	69	60	82	1.4	1.5	1.2	1.2
39	47	68	94	61	57	55				
59	72	107	88	48	85	28	1.0	1.1	1.3	1.0

Group II: ITA plus PLDK (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
16	2	79	69	58	-3.00	54	55	57	46
		89	75	69	-2.85	66	64	80	50
17	2	74	76	58	-2.24	56	51	36	42
		83	72	62	-1.87	64	69	49	42
18	1	94	65	64	-1.99	72	46	94	95
		102	79	83	-3.00	67	42	80	50
19	1	77	76	60	-3.00	51	51	36	46
		87	75	67	-3.00	64	69	53	50
20	1	80	81	66	-3.00	57	46	57	60
		88	67	61	-3.00	59	42	62	76
21	2	70	100	70	-1.95	58	46	53	42
		78	93	73	-.60	73	60	62	50
22	2	70	84	60	-.99	64	33	75	60
		76	91	70	-2.22	63	60	62	55
23	2	75	79	61	-3.00	57	33	44	38
		82	80	67	-1.46	68	55	75	60
24	1	77	76	60	-3.00	42	37	75	46
		84	70	61	-1.82	65	60	75	60
25	2	71	96	68	-.76	66	55	70	42
		78	97	76	-.23	76	87	80	50
26	2	69	73	52	-3.00	39	37	32	30
		77	56	46	-3.00	47	51	44	33
27	1	73	74	56	-3.00	50	33	66	70
		82	74	63	-2.18	63	42	70	38
28	1	72	77	57	-1.85	65	78	57	65
		80	93	75	-.48	74	69	105	70
29	1	70	73	53	-3.00	46	42	32	35
		77	69	55	-3.00	52	42	53	35
30	2	78	77	62	-2.53	61	46	66	46
		85	105	90	-1.51	67	69	75	65
31	2	72	91	66	-1.50	61	46	66	42
		78	93	73	-1.97	64	60	66	30
32	1	68	97	66	-.23	69	46	87	82
		77	96	74	.27	81	64	105	65
33	1	74	85	64	-2.58	54	42	66	50
		83	89	75	-.88	73	55	70	50
34	1	68	102	69	-.25	65	46	57	76
		76	110	83	.70	83	60	80	88
35	1	79	78	63	-1.66	66	46	66	55
		88	76	69	-.05	83	73	87	76
36	1	77	83	65	-2.53	61	69	62	38
		86	89	78	-.97	72	60	57	65
37	2	78	86	68	-2.47	62	28	75	46
		86	88	77	-1.10	71	64	94	55
38	2	68	95	65	-1.32	57	28	57	60
		77	88	69	-1.48	67	55	53	65

9	10	11	12	13	14	15	16	17	18	19
47	40	68	55	61	53	59	1.3	1.4	1.3	
70	72	64	64	65	65	69	1.2	1.3	1.5	1.0
39	61	76	94	48	53	32	1.3	1.2	1.1	
59	64	68	102	78	57	62	1.1	1.0	1.1	1.0
78	108	76	79	56	62	30	1.7	1.9	1.4	
82	72	72	61	86	60	54	1.6	1.5	1.5	1.5
47	44	49	71	56	49	58	1.4	1.2	1.1	
59	50	64	88	90	60	70	1.1	1.2	1.2	1.0
50	64	64	37	73	65	56	1.4	1.3	1.5	
63	68	61	50	61	55	68	1.2	1.2	1.2	1.0
59	52	76	67	65	55	67	1.3	1.5	1.5	
78	81	93	79	86	74	63	1.4	1.2	1.2	1.1
70	50	76	71	61	81	69	1.6	1.5	1.3	
66	76	53	71	61	60	66	1.5	1.5	1.6	1.3
56	58	83	61	82	51	56	2.5	2.3	1.1	
66	68	76	67	86	62	62	1.4	1.9	1.3	1.8
50	47	57	55	44	62	37	1.0	1.2	1.3	
59	61	76	55	90	57	58	1.0	1.2	1.2	1.0
70	68	57	102	61	55	79	1.8	2.2	1.6	
87	72	64	102	65	62	73	1.7	1.8	1.6	2.0
37	31	34	61	35	44	29	1.0	1.1	1.0	
39	44	42	58	61	51	58	1.0	1.1	1.2	1.0
42	61	42	45	52	44	32				
59	64	49	67	99	68	73	1.3	1.2	1.3	1.3
56	52	64	102	56	51	57	2.5	2.6	2.1	
73	64	57	102	73	57	66	1.8	1.8	2.0	1.8
39	44	61	61	56	42	9	1.4	1.0	1.1	
53	52	61	52	61	51	70	1.2	1.1	1.1	1.0
56	64	31	102	56	77	29	1.0	1.7	1.5	
66	76	53	102	44	51	69	1.3	1.8	1.5	1.2
70	50	64	102	56	49	54	2.2	2.5	1.4	
78	64	53	102	69	57	79	1.7	1.9	1.6	2.0
78	52	76	102	52	55	74	1.5	1.9	1.4	
78	68	79	102	99	74	81	1.2	1.4	1.5	1.6
56	58	64	45	44	55	47	1.4	1.5	1.6	
66	81	72	102	107	60	66	1.2	1.4	1.7	1.7
56	64	57	102	56	44	39	1.6	1.8	1.5	
73	94	68	102	90	75	73	1.3	1.4	1.6	1.7
66	68	76	84	86	55	63	2.9	3.9	2.7	
92	94	68	88	103	77	70	3.2	2.9	3.0	2.1
63	61	68	75	48	60	32	1.5	1.9	1.3	
73	94	68	102	40	106	72	1.5	1.4	1.7	1.6
70	76	72	67	44	62	57				
73	88	64	75	69	71	65	2.0	1.3	1.8	1.4
59	64	83	55	48	51	87	1.6	1.5	1.3	
73	68	72	88	99	49	71	1.6	1.5	1.8	1.0

Group II: ITA plus PLDK (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
39	2	73	86	64	-1.61	60	51	44	46
		82	78	66	-2.50	59	42	70	33
40	2	81	102	83	-1.60	67	73	53	70
		88	104	92	-1.34	78	91	66	70
41	2	81	80	66	-3.00	51	28	70	42
		88	70	64	-3.00	59	33	66	46
42	2	78	84	67	-1.66	66	60	70	76
		87	98	86	-1.88	73	96	57	76
43	1	72	99	71	-.42	68	64	75	70
		80	100	80	.11	85	51	94	70
44	1	78	82	65	-2.72	60	36	80	55
		87	75	67	-2.09	63	60	80	60
45	1	75	97	73	-1.04	70	64	75	55
		85	95	82	-.92	73	78	80	76
46	2	73	73	55	-2.46	55	42	62	30
		82	78	66	-2.59	58	51	87	33
47	1	79	101	80	-.60	73	55	70	88
		88	87	78	-1.77	74	69	80	104
48	2	70	100	70	-1.72	60	42	53	76
		79	98	78	-.73	72	55	66	76
49	2	78	82	65	-2.91	59	37	62	38
		85	80	70	-1.01	72	55	70	60
50	2	78	103	80	-1.66	66	51	105	50
		85	90	78	-1.01	72	51	87	55
51	2	70	94	66	-.02	71	55	75	70
		77	91	71	-1.10	70	51	70	46
52	1	74	78	59	-2.52	54	33	66	42
		81	74	62	-2.82	53	33	62	46
53	2	74	85	64	-.59	67	42	62	70
		83	85	72	-1.78	65	46	49	65
54	2	70	92	65	-1.10	64	33	44	60
		79	84	68	-.36	75	33	53	55
55	1	69	77	55	-3.00	41	37	53	35
		78	76	61	-3.00	54	33	57	50
56	2	79	82	66	-3.00	55	28	80	42
		86	72	64	-1.87	64	46	75	70
57	1	71	99	70	-1.72	60	46	70	46
		79	84	68	-1.78	65	60	84	65
58	2	79	93	74	-1.97	64	37	80	76
		88	104	92	-.54	86	51	75	104
59	2	77	91	71	-2.91	59	33	70	50
		86	87	76	-1.51	67	51	70	65
60	2	77	98	76	-1.10	70	60	70	50
		86	94	82	-1.13	80	96	80	70
61	2	80	75	62	-2.72	60	55	62	50
		87	72	65	-1.78	65	64	62	65

9	10	11	12	13	14	15	16	17	18	19
50	72	49	102	52	71	38	1.2	1.3	1.8	
66	55	61	75	73	55	67	1.4	1.4	1.7	1.4
66	68	49	79	94	57	67	2.9	2.6	2.5	
78	81	83	102	73	65	66	2.5	3.1	2.7	2.0
50	58	49	75	47	44	59	1.4	1.4	1.6	
59	68	57	88	48	55	70	1.4	1.3	1.8	1.0
66	64	42	75	73	74	49	2.0	3.1	1.7	
82	81	68	71	78	65	75	3.2	2.5	2.8	2.0
70	61	53	102	56	65	72	1.6	1.7	1.6	
82	76	107	102	73	85	66	1.8	2.1	1.8	1.7
44	50	81	67	56	60	74	1.5	1.5	1.3	
56	81	68	71	48	46	58	1.8	1.7	1.7	1.0
82	47	68	67	82	95	59	1.3	1.4	1.5	
92	68	64	64	90	62	81	1.7	1.2	1.8	1.0
44	64	53	58	74	53	26	1.0	1.1	1.5	
50	58	61	75	65	53	36	1.0	1.2	1.7	1.0
66	81	68	102	78	55	74	1.9	2.3	1.6	
82	94	107	67	44	62	72	1.9	2.0	1.9	1.6
42	52	76	58	73	68	36	1.8	1.9	1.7	
73	72	68	79	99	68	78	2.2	1.4	1.8	1.4
59	76	57	75	61	55	56	1.4	1.2	1.6	
66	72	64	102	94	65	56	1.4	1.6	1.7	1.0
78	81	53	102	44	51	64	1.6	1.8	1.7	
73	68	79	102	65	57	72	1.6	1.7	1.6	2.0
70	44	57	102	69	85	64	1.4	1.5	1.7	
82	64	42	102	82	62	74	1.7	1.5	2.0	1.0
42	61	46	71	61	57	30	1.2	1.2	1.5	
44	58	46	75	48	81	43	1.5	1.2	1.5	1.0
59	64	76	102	56	53	80	1.7	1.8	1.6	
78	58	49	102	44	65	58	1.8	1.3	1.7	1.4
50	76	61	88	69	85	64	1.5	1.7	1.7	
53	64	64	102	103	106	72	1.9	1.5	1.7	1.0
37	31	42	47	73	29	32	1.0	1.0	1.5	
53	68	57	61	52	46	29	1.0	1.2	1.1	1.0
56	61	49	75	48	51	63	1.2	1.4	1.2	
53	64	64	84	69	60	61	1.2	1.1	1.5	1.2
56	64	57	102	40	51	35	1.0	1.2	1.5	
70	55	79	102	56	60	67	1.3	1.4	1.8	1.0
82	79	42	84	56	53	69	2.4	2.8	1.8	
94	72	107	94	56	106	80	1.9	1.9	1.6	1.7
56	55	79	55	56	65	60	1.4	1.4	1.3	
73	68	83	61	78	62	53	1.2	1.2	1.5	1.2
82	101	57	71	73	74	46	2.0	2.3	1.3	
87	76	88	102	56	77	61	1.7	1.8	1.6	1.6
66	52	107	55	65	46	79	1.4	1.4	1.2	
73	52	83	75	56	60	89	1.3	1.4	1.1	1.0

Group II: ITA plus PLDK (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
62	1	73	79	59	-2.35	55	37	80	55
		82	86	72	-.88	73	64	75	60
63	2	73	96	70	-1.84	59	55	57	35
		82	77	65	-2.14	62	55	75	55
64	1	73	79	59	-2.52	54	33	70	70
		82	78	66	-1.37	69	51	57	104
65	1	79	75	61	-3.00	56	42	49	70
		89	76	70	-1.24	79	87	80	70
66	1	90	55	52	-3.00	51	42	62	38
		98	59	60	-3.00	65	73	70	55
67	2	75	82	63	-3.00	53	42	51	42
		83	85	72	-2.32	61	55	57	46
68	2	76	78	61	-2.97	58	69	66	60
		85	80	70	-1.55	67	60	70	95
69	2	69	64	47	-3.00	45	51	32	35
		78	70	57	-3.00	54	28	57	42
70	2	73	102	74	.55	76	51	66	46
		81	93	76	-.97	72	69	80	50
71	1	71	99	70	-1.50	61	73	57	76
		78	91	72	-1.79	66	60	75	76
72	2	78	80	64	-1.48	67	42	87	46
		86	97	84	-.88	73	51	75	70
73	1	69	87	61	-3.00	49	33	36	46
		78	97	76	-1.60	67	46	44	53
74	2	72	94	68	-.47	68	73	62	76
		82	73	62	-1.64	66	60	70	82
75	1	72	91	66	.95	79	64	96	70
		80	105	84	1.26	90	78	94	82
76	1	78	96	75	-1.16	69	42	57	88
		88	99	88	-.97	82	73	44	104
77	2	74	69	53	-2.01	58	55	62	60
		83	75	64	-2.86	56	28	57	50
78	2	79	75	61	-3.00	56	28	53	50
		87	67	61	-3.00	63	42	75	55
79	2	78	97	76	-1.16	69	46	87	88
		88	104	92	-.16	91	55	87	76
80	1	75	87	66	-2.97	58	46	66	82
		85	74	65	-.52	77	82	75	70
81	2	76	83	64	-3.00	53	37	53	60
		86	87	76	-2.05	64	33	57	60
82	2	77	73	58	-3.00	57	37	54	55
		84	74	64	-2.14	62	55	42	66
83	1	69	77	55	-2.46	55	42	49	42
		79	79	64	-1.85	65	33	66	46
84	2	70	100	70	-1.38	62	87	49	55
		79	98	78	.52	84	91	70	46

9	10	11	12	13	14	15	16	17	18	19
53	55	31	79	48	55	37	1.8	3.6	1.6	
82	61	68	102	69	62	57	1.8	2.1	1.6	1.6
73	61	64	67	61	51	54	1.3	1.4	1.6	
63	47	79	71	56	60	69	1.3	1.3	1.4	1.0
42	61	42	61	56	53	43	1.4	1.4	1.5	
59	61	42	67	94	106	68	1.3	1.5	1.6	1.0
50	68	57	50	82	46	66	2.0	2.3	1.5	
63	64	64	102	103	71	85	1.7	1.5	1.3	1.0
37	52	49	41	61	77	60	1.2	1.0	1.3	
63	52	53	88	69	65	58	1.2	1.1	1.3	1.0
56	52	57	61	65	57	56	1.4	1.3	1.2	
70	64	46	84	61	57	72	1.3	1.1	1.2	1.0
53	64	61	64	48	46	23	1.2	1.3	1.3	
66	101	64	64	31	71	35	1.3	1.2	1.5	1.0
29	31	53	71	61	53	77	1.4	1.2	1.2	
47	52	46	61	56	90	66	1.3	1.3	1.3	1.0
78	61	83	102	90	85	65				
99	64	72	102	48	60	74	1.6	1.7	1.3	1.3
47	68	46	64	73	55	54	1.6	1.9	1.6	
73	76	68	58	56	57	89	1.6	1.5	1.4	1.9
78	76	79	67	73	62	58	1.2	2.1	1.7	
78	81	107	79	73	65	80	1.6	1.7	1.2	1.6
53	44	53	52	65	51	39	1.3	1.3	1.6	
65	68	107	67	82	65	81	1.3	1.3	1.6	1.0
56	58	107	52	86	68	83	1.4	2.2	1.2	
70	76	76	52	73	55	80	1.6	1.2	1.7	1.0
78	64	107	67	78	81	68	2.1	2.8	1.9	
92	72	107	88	82	95	83	1.7	1.9	1.7	1.4
70	50	107	102	44	81	45	1.6	1.3	1.1	
73	58	83	102	94	77	92	1.6	1.3	1.2	1.0
50	47	53	84	52	60	36	1.2	1.2	1.1	
53	47	61	67	61	59	64	1.2	1.1	1.1	1.0
47	52	79	55	78	46	63	1.4	1.4	1.5	
53	68	83	64	78	51	70	1.2	1.2	1.3	1.0
60	81	57	75	69	68	70	1.8	1.8	1.8	
70	88	107	102	99	85	85	1.5	1.4	1.5	1.4
47	52	57	61	73	53	62	1.7	2.1	1.6	
78	58	107	79	82	74	68	1.7	1.5	1.5	1.4
44	58	57	50	65	51	78				
59	58	107	67	69	60	81	1.0	1.2	1.3	1.0
47	52	72	55	86	51	65	1.4	1.3	1.5	
53	70	61	71	73	62	64	1.3	1.4	1.3	1.0
34	52	61	64	94	44	38	1.4	1.3	1.3	
59	64	83	64	94	71	69	1.4	1.1	1.2	1.0
78	72	34	50	69	65	81	2.7	2.6	1.8	
87	72	107	75	90	85	87	1.7	1.7	1.6	1.0

Group II: ITA plus PLDK (cont.)

Subject / Variables	Sex	1	2	3	4	5	6	7	8
85	2	74	61	48	.14	79	73	62	104
		83	66	57	-2.73	57	37	49	42
86	1	75	102	76	-.85	72	69	87	60
		84	102	86	-.20	81	91	80	95
87	1	75	75	58	-3.00	56	73	75	55
		83	95	80	-.97	72	73	80	60
88	2	73	85	63	-1.41	68	73	87	104
		82	81	68	-1.37	69	42	70	76
89	1	74	73	56	-2.69	53	37	66	42
		84	80	69	-2.09	63	55	62	42
90	2	72	82	60	-1.90	58	73	57	50
		81	81	67	-1.69	66	55	66	35
91	1	70	89	63	-.08	71	46	87	88
		79	90	72	-.67	73	60	84	65
92	2	72	94	68	-.08	71	73	75	65
		79	87	70	-.73	72	82	75	88
93	1	71	72	53	-3.00	49	46	44	70
		78	69	56	-2.53	61	33	87	42
94	2	74	70	54	-3.00	48	46	32	35
		82	68	58	-2.46	60	51	87	65
95	2	76	83	64	-2.35	62	60	62	82
		84	86	74	-2.14	62	60	80	46
96	1	68	99	67	-1.50	61	46	66	76
		77	107	82	-.36	75	73	62	82
97	1	73	99	72	-.08	71	64	87	76
		81	111	90	-.88	73	64	80	88
98	2	71	86	62	-1.50	61	42	66	70
		78	87	69	-2.41	62	55	75	42
99	2	69	102	70	-1.10	64	46	45	82
		78	103	80	-1.60	67	60	66	55
100	1	76	87	67	-2.16	63	69	70	60
		84	94	80	-1.10	71	73	66	55
101	2	70	87	62	-.70	66	42	57	46
		79	93	74	-.36	75	64	87	55
102	1	72	93	67	-.42	68	73	80	65
		80	91	74	-.48	74	60	75	50
103	2	70	91	64	-1.27	63	73	66	55
		77	98	76	-1.48	67	73	80	55
104	1	67	112	74	1.54	82	64	87	82
		77	127	96	.70	84	64	94	82
105	1	67	82	56	-1.44	62	33	57	55
		76	85	66	-.98	71	60	62	50
106	1	76	88	68	-1.35	68	78	53	60
		84	97	82	-1.42	68	73	80	33
107	1	71	105	74	-2.75	53	37	53	55
		81	90	74	-2.64	58	64	62	42

9	10	11	12	13	14	15	16	17	18	19
78	108	68	102	90	53	50	1.3	1.4	1.3	
42	94	79	61	69	49	65	1.6	1.2	1.5	1.0
82	64	83	84	48	74	33	2.7	3.9	3.0	
108	88	68	84	99	53	70	2.7	2.4	1.7	1.7
50	36	45	64	40	57	62	1.2	1.9	1.1	
66	64	83	75	99	62	66	1.7	1.6	1.3	1.0
53	76	64	61	48	62	40	1.7	2.8	1.8	
87	81	68	45	99	71	58	1.3	1.8	1.6	1.6
42	58	41	58	86	42	32	1.2	1.6	1.2	
63	68	72	55	61	77	34	1.6	1.3	1.5	1.0
50	47	45	50	107	51	72	1.8	2.5	1.6	
70	64	79	67	90	65	69	1.1	1.5	1.5	1.4
66	58	68	102	52	60	27	1.7	1.6	1.3	
66	58	83	71	94	77	67	1.6	1.3	1.4	1.0
66	76	61	71	94	65	37	1.9	3.1	1.8	
82	76	83	67	48	71	65	1.8	2.8	1.7	1.8
37	44	46	55	52	51	37	1.0	1.3	1.0	
53	64	61	61	44	106	26	1.4	1.1	1.1	1.0
42	76	27	55	61	53	69	1.1	1.2	1.2	
50	58	49	64	56	60	52	1.0	1.0	1.3	1.0
53	52	38	84	74	57	30	1.9	3.9	1.4	
56	47	61	79	69	71	35	1.7	1.7	1.4	1.9
56	55	49	102	52	55	37	2.4	3.6	2.1	
87	64	83	84	82	71	48	1.7	2.5	2.0	1.8
70	68	53	64	69	106	65	2.1	3.6	2.5	
70	64	68	64	99	77	73	2.1	2.3	2.1	2.8
63	58	53	67	90	49	71	1.1	1.7	1.1	
63	58	68	67	78	53	68	1.1	1.4	1.4	1.2
70	88	46	84	56	55	28	2.9	2.6	1.6	
73	61	79	64	73	68	67	1.7	2.1	1.3	1.6
63	101	61	64	48	51	55	2.9	3.9	3.4	
70	72	83	67	73	81	68	2.9	2.8	2.5	2.0
63	94	88	71	90	55	63	1.9	3.6	1.9	
82	108	68	102	82	53	67	1.8	2.1	1.5	1.5
63	52	61	88	99	55	46	1.8	2.4	1.4	
73	52	107	94	82	85	59	1.7	1.8	1.8	1.6
59	61	57	75	48	65	51	2.1	3.6	1.8	
82	76	61	79	52	57	70	1.7	1.8	1.3	2.0
70	76	107	79	90	106	66	3.2	3.9	3.9	
73	72	107	102	78	90	65	3.2	3.6	2.7	2.3
39	52	83	79	73	77	41	1.6	1.7	1.8	
73	72	107	65	48	106	68	1.6	1.6	1.6	1.0
78	58	64	102	61	68	55	1.9	3.6	1.6	
82	72	38	94	69	81	74	1.8	2.1	1.7	2.0
42	58	49	58	82	44	75	1.1	1.2	1.3	
47	72	72	75	40	49	72	1.3	1.3	1.6	1.0

Group II: ITA plus PLDK (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
108	2	70	95	67	-.19	70	78	57	65
		80	94	76	-1.35	68	73	75	65
109	1	75	82	63	-1.91	65	55	49	56
		85	100	86	-.61	76	78	66	55
110	1	67	95	64	-1.42	56	33	75	76
		77	81	64	-2.35	62	55	70	60
111	2	71	89	64	-1.90	58	60	75	60
		79	94	75	-1.23	69	55	87	65
112	1	76	84	60	-2.35	55	46	66	104
		79	78	63	-2.53	61	55	40	88
113	1	90	78	72	-3.00	61	46	57	46
		98	75	76	-2.61	75	73	94	60
114	1	78	103	80	-1.97	64	64	75	88
		87	95	84	-1.40	78	82	87	70
115	2	74	112	82	.38	74	100	57	88
		82	105	86	.16	85	107	62	95
116	2	73	82	61	-3.00	46	28	44	46
		81	76	63	-2.00	63	64	57	50
117	1	70	65	48	-3.00	36	28	36	55
		79	72	59	-3.00	55	33	87	38
118	1	59	89	64	-2.01	57	37	70	46
		79	87	70	-2.04	64	60	80	46
119	1	74	97	72	-2.86	52	28	49	55
		83	83	70	-1.33	69	64	66	76
120	2	78	70	57	-3.00	53	42	44	42
		88	67	61	-3.00	63	55	44	55
121	2	75	71	55	-3.00	54	28	66	60
		83	80	68	-1.64	66	42	75	46
122	2	70	100	70	-.42	68	82	75	70
		79	102	81	-.48	74	78	49	65
123	1	73	91	67	-1.38	62	46	75	82
		83	101	84	-1.15	71	55	87	95
124	1	69	90	63	-2.24	56	33	66	60
		79	90	70	-1.66	66	33	80	60
125	2	71	72	53	-2.18	57	51	62	50
		81	93	76	-1.55	67	78	62	65
126	1	76	112	84	1.01	87	69	80	104
		91	125	106	1.82	106	114	105	104
127	1	69	99	68	-.70	66	37	80	104
		77	101	78	-.35	86	46	80	104
128	1	86	87	76	-.34	79	55	105	82
		84	83	80	-.54	86	46	105	104
129	2	71	103	73	-.99	64	28	49	60
		81	106	86	.02	82	96	70	70

9	10	11	12	13	14	15	16	17	18	19
66	52	57	102	52	85	54	1.8	3.9	1.4	
70	68	61	102	61	55	48	1.1	1.9	1.6	1.5
78	61	61	102	82	55	29	2.4	3.9	2.3	
73	72	107	102	84	51	55	2.4	2.6	1.9	1.8
50	68	53	50	52	53	37	1.7	2.5	1.6	
66	68	76	58	40	62	70	1.7	2.3	1.7	1.3
70	55	64	43	52	55	55	1.6	2.3	1.8	
63	72	88	52	69	81	61	1.4	1.4	1.5	1.0
47	72	38	50	52	40	48	1.7	2.2	1.7	
56	76	68	58	44	65	64	1.5	1.6	1.3	1.1
73	64	76	61	48	65	69	1.6	2.1	1.3	
73	72	107	71	90	60	67	1.3	1.0	1.1	1.3
70	61	72	94	48	38	45	2.9	3.1	3.0	
82	68	79	102	78	60	60	3.2	2.6	2.6	1.7
82	76	64	67	78	71	59	2.7	3.1	2.2	
92	76	107	84	90	62	75	2.5	2.8	2.3	1.6
53	50	49	61	31	44	51	1.8	2.4	1.5	
73	64	72	64	65	57	65	1.6	1.7	1.3	1.0
32	31	27	37	48	40	19	1.1	1.3	1.4	
47	61	83	43	48	55	39	1.2	1.0	1.3	1.0
63	58	61	67	44	60	52	1.6	1.7	1.5	
70	55	49	79	90	55	72	1.2	1.2	1.3	1.3
50	58	57	61	52	51	36	1.4	3.6	1.1	
70	69	72	55	90	74	35	1.6	1.7	1.5	1.0
50	55	57	67	48	57	68	1.5	1.0	1.3	
70	68	83	84	48	53	63	1.4	1.1	1.1	1.0
39	55	61	58	69	51	36	1.6	1.7	1.4	
59	88	79	67	69	71	51	1.1	1.2	1.2	1.0
92	64	49	66	69	60	55	3.2	3.6	3.9	
73	94	83	94	78	68	63	3.2	2.8	3.2	2.3
53	58	88	67	44	53	74	1.9	2.3	1.1	
78	72	83	71	69	53	70	1.4	1.4	1.5	1.0
47	52	27	79	56	74	50	2.2	1.3	1.1	
66	60	79	75	65	62	53	1.4	1.0	1.1	1.0
50	61	53	94	56	40	71	1.3	1.4	1.5	
59	61	68	94	82	53	70	1.0	1.2	1.1	1.0
92	108	107	102	61	71	66	3.2	3.1	3.4	
92	94	107	102	99	81	68	2.9	2.6	3.2	1.7
66	68	61	67	52	71	43	1.3	1.5	1.3	
87	58	107	55	48	74	36	1.3	1.2	1.6	1.0
78	64	93	58	99	90	70	1.6	1.8	1.6	
78	81	107	61	111	81	62	1.7	1.6	1.3	1.4
59	68	107	75	86	57	26	2.9	3.6	3.2	
87	76	107	79	82	77	64	2.9	2.6	2.1	1.6

Group III: WIC only

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
1	2	69	103	71	-.30	69	82	57	104
		78	105	82	.64	84	73	75	70
2	2	72	89	65	-.59	67	51	70	70
		80	87	71	-1.64	66	51	80	82
3	1	72	58	45	-2.98	45	28	87	70
		81	69	68	-3.00	55	33	94	46
4	2	75	96	72	-1.41	68	46	57	50
		84	97	82	-.52	78	60	105	82
5	2	80	86	70	.02	78	60	75	65
		87	93	82	-1.56	76	69	75	60
6	2	73	79	59	-1.27	63	87	57	70
		82	81	68	-1.24	70	87	70	60
7	1	76	78	61	-3.00	57	33	36	70
		80	81	66	-.92	73	37	75	95
8	1	71	77	56	-2.18	57	42	49	42
		80	83	68	-2.14	62	55	87	42
9	1	73	93	68	-.25	69	46	94	65
		82	81	68	-1.01	72	33	105	82
10	2	67	83	57	-.45	64	51	57	46
		76	109	82	-.36	75	60	87	46
11	2	73	99	72	-.25	69	78	53	82
		80	100	80	-.38	79	87	80	70
12	2	74	74	55	-1.91	65	69	75	50
		83	80	68	-1.91	64	69	80	50
13	1	69	87	61	-2.01	58	46	62	104
		78	89	70	-.73	72	78	57	82
14	1	78	79	63	-3.00	53	33	57	50
		87	73	66	-2.96	65	28	87	55
15	2	77	93	72	-1.35	68	55	75	60
		84	92	78	-.47	78	78	66	88
16	2	78	72	58	-2.85	59	51	70	38
		87	73	66	-1.88	73	69	70	50
17	2	70	81	58	-1.78	59	28	70	55
		79	90	72	-2.60	61	28	66	46
18	2	78	73	59	-.98	71	82	70	60
		87	100	88	-1.08	81	69	87	88
19	2	76	112	84	-.73	72	60	53	104
		85	83	72	.47	90	55	105	104
20	2	72	60	46	-3.00	33	33	44	30
		81	57	49	-3.00	36	51	49	30
21	1	72	77	57	-2.41	55	27	53	38
		81	76	63	-2.18	62	33	44	35
22	2	72	113	80	.78	78	64	70	104
		81	107	87	.11	85	96	75	82
23	2	78	91	72	-1.48	67	55	62	50
		88	81	73	-2.04	72	69	62	42

9	10	11	12	13	14	15	16	17	18	19
73	64	61	75	69	60	24				
82	101	79	88	103	85	39	2.7	3.6	2.5	2.3
53	72	64	67	48	71	68				
73	72	107	55	56	49	67	1.4	1.2	1.3	1.5
32	58	42	41	52	29	22				
39	55	76	43	56	60	72	1.5	1.4	1.1	1.0
56	64	64	102	86	90	57				
70	76	107	102	48	60	63	1.6	1.5	1.3	1.2
92	88	68	79	82	106	64				
82	72	93	67	73	106	68	1.8	1.8	1.5	1.4
70	72	49	61	56	51	48				
73	72	93	58	69	60	67	1.9	1.9	1.7	1.8
50	58	57	71	48	77	27				
63	68	83	88	52	106	66	1.4	1.4	1.7	1.0
47	52	53	84	61	68	21				
66	61	64	84	56	51	60	1.5	1.5	1.5	1.2
63	72	107	64	69	62	67				
82	64	88	75	78	65	76	1.7	2.3	1.6	1.4
66	47	49	102	40	74	50				
70	52	93	102	78	68	65	1.3	1.4	1.7	1.6
82	68	72	71	61	68	25				
87	72	83	75	61	106	61	2.9	3.1	3.0	2.2
66	61	72	61	86	53	26				
73	68	49	55	65	68	53	1.6	1.4	1.3	1.2
56	44	57	55	56	57	34				
87	61	88	61	94	62	70	1.3	1.1	1.3	1.0
66	72	49	55	69	31	26				
70	61	79	71	65	68	52	1.1	1.2	1.4	1.0
63	58	107	52	86	74	57				
82	72	79	64	107	74	72	1.6	1.7	1.5	1.7
63	72	49	67	61	55	48				
82	76	79	75	86	74	59	1.3	1.1	1.3	1.4
50	61	68	58	69	65	47				
63	52	76	75	82	55	60	1.7	1.6	1.5	1.0
78	81	72	71	69	62	68				
82	68	107	84	61	111	63	1.8	1.6	1.7	1.8
73	64	79	102	56	68	54				
87	61	107	94	78	111	73	1.8	1.6	1.8	2.0
34	31	34	33	35	33	48				
37	40	31	33	27	44	48	1.0	1.0	1.0	1.0
47	58	76	61	69	55	36				
63	68	61	71	94	74	70	1.6	1.4	1.3	1.2
78	64	79	102	73	74	81				
73	64	88	102	86	71	84	2.9	2.4	1.7	1.8
73	61	72	102	86	57	41				
82	76	68	102	94	65	56	1.7	1.6	1.5	2.1

Group III: WIC only (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
24	2	77	118	90	-.54	74	87	57	65
		86	101	88	.52	90	82	87	104
25	2	73	71	54	-3.00	46	37	49	46
		82	77	65	-2.73	57	33	70	38
26	2	75	97	73	-2.78	60	51	66	30
		84	88	75	-1.19	70	60	70	46
27	2	78	80	64	-1.91	65	64	57	55
		87	82	73	-2.96	65	78	70	38
28	2	78	76	61	-3.00	55	37	70	46
		87	71	64	-2.86	65	28	66	70
29	1	73	80	60	-1.72	60	37	66	50
		82	81	68	-3.00	54	33	57	46
30	1	67	73	51	-3.00	45	33	49	33
		76	67	53	-3.00	47	51	57	42
31	1	75	78	60	-3.00	47	33	40	30
		84	64	58	-2.64	58	60	80	42
32	1	75	81	62	-.92	71	42	66	76
		84	86	74	-1.15	71	42	87	88
33	1	75	91	69	-2.29	63	60	75	55
		84	83	71	-.97	72	51	87	76
34	1	78	96	75	-1.48	67	55	66	70
		87	105	92	-.75	84	82	87	104
35	1	78	76	61	-3.00	51	37	44	46
		87	71	66	-3.00	52	46	53	42
36	1	72	103	74	-1.61	60	51	53	76
		81	104	84	-.92	73	73	87	88
37	2	71	91	65	-.81	66	26	80	30
		81	98	80	-1.15	72	46	70	53
38	1	72	113	80	1.52	85	96	62	65
		81	101	82	1.01	98	96	105	82
39	2	71	94	67	-1.61	60	51	70	46
		78	94	74	-1.16	69	69	87	46
40	1	75	99	74	-1.54	67	51	80	60
		84	107	90	-1.06	72	69	87	65
41	1	72	97	70	-.30	69	78	62	65
		81	93	76	-1.19	70	55	66	55
42	2	77	110	84	-.48	74	64	80	50
		87	103	90	-.70	85	87	70	70
43	1	67	82	56	-2.35	55	33	44	46
		77	78	62	-2.85	59	55	62	35
44	2	79	76	62	-1.91	64	33	66	60
		88	77	70	-2.26	70	33	49	76
45	1	77	69	55	-3.00	49	37	32	42
		87	62	57	-3.00	52	37	53	35
46	2	69	69	50	-3.00	46	28	44	33
		78	70	57	-3.00	44	28	40	30

9	10	11	12	13	14	15	16	17	18	19
78	81	83	79	48	90	68	1.9	2.4	2.0	2.5
87	81	107	79	82	106	78				
34	50	38	67	69	29	68	1.1	1.0	1.5	1.9
56	61	61	71	68	51	72				
66	61	46	64	52	68	70	1.7	1.3	1.6	1.8
73	68	68	79	94	74	67				
50	58	72	67	56	106	27	1.4	1.1	1.1	1.2
70	72	57	94	69	51	58				
42	58	53	67	61	57	35	1.5	1.3	1.5	1.9
63	61	93	84	78	53	27				
53	72	64	47	65	74	66	1.2	1.0	1.1	1.9
59	61	46	55	56	55	69				
42	61	61	41	44	42	20	1.0	1.0	1.1	1.0
53	53	53	50	61	60	44				
34	36	46	55	56	62	24	1.3	1.2	1.3	1.0
39	52	42	61	86	65	76				
70	72	69	102	90	77	71	1.6	1.7	1.5	1.2
73	58	64	102	61	71	68				
53	68	68	67	73	51	50	1.8	1.1	1.5	1.4
59	68	78	94	90	65	64				
70	64	93	50	65	77	86	2.1	2.5	1.9	2.3
78	68	78	102	86	65	66				
50	47	46	64	48	62	59	1.1	1.0	1.3	1.0
64	47	27	71	52	74	36				
63	61	72	84	44	53	34	1.4	1.5	1.3	1.2
73	64	72	64	86	68	63				
70	61	83	79	48	85	80	1.6	1.6	1.6	1.4
78	76	107	94	82	57	80				
87	101	68	102	64	90	37	1.8	2.4	1.7	1.7
92	72	107	102	86	74	63				
63	52	64	79	44	65	62	1.8	1.9	1.7	1.4
66	53	68	102	56	85	68				
82	108	61	71	52	53	21	1.8	1.6	1.6	1.8
92	81	57	55	73	81	35				
87	94	68	75	61	53	32	1.4	1.5	1.6	1.5
82	68	76	84	82	68	64				
87	68	107	94	86	55	45	2.4	2.6	2.0	2.4
92	101	107	102	56	74	65				
44	61	46	64	86	62	10	1.4	1.4	1.5	1.0
39	94	31	64	86	53	34				
50	81	76	102	61	55	43	1.9	1.9	1.5	1.7
78	68	93	102	73	65	61				
42	58	53	61	52	51	19	1.0	1.0	1.1	1.0
39	61	79	58	56	46	34				
42	52	57	37	48	60	24	1.4	1.1	1.0	1.0
47	53	46	50	48	46	47				

Group III: WIC only (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
47	1	72	88	64	-1.21	63	55	62	55
		81	82	68	-1.23	69	28	94	55
48	1	74	91	68	-1.67	60	42	66	65
		81	77	64	-2.27	61	64	87	65
49	1	74	79	60	-2.72	60	51	80	55
		84	79	68	-.83	74	51	94	46
50	2	72	89	65	-1.04	64	78	75	38
		82	97	80	-.56	77	96	66	50
51	1	77	90	70	-.79	72	60	94	70
		87	88	78	-1.99	72	78	75	65
52	1	68	97	66	-1.27	63	42	57	50
		78	97	76	-1.91	65	55	75	55
53	1	77	113	86	-.60	73	55	70	82
		87	88	78	-1.61	76	64	62	82
54	2	67	83	57	-2.07	57	42	70	55
		77	78	62	-2.35	62	37	75	38
55	1	73	73	55	-3.00	50	28	57	42
		82	67	57	-3.00	55	28	57	42
56	2	73	76	57	-3.00	54	37	62	38
		83	77	66	-1.87	64	64	57	46
57	1	77	103	79	.20	80	82	70	65
		87	105	92	-.65	83	78	70	70
58	2	73	79	61	-3.00	56	33	49	46
		83	83	70	-2.09	63	33	75	42
59	1	68	79	55	-2.29	56	33	53	46
		77	81	64	-2.91	59	55	80	46
60	2	69	99	68	-.64	67	55	94	55
		78	93	73	-1.91	65	64	66	42
61	2	79	67	55	-3.00	55	37	40	38
		89	76	70	-1.99	72	69	40	65
62	1	78	84	67	-1.79	66	51	105	70
		87	73	66	-1.83	74	51	75	65
63	1	80	86	70	-.98	71	37	94	46
		88	92	82	-2.80	66	51	66	55
64	2	74	76	58	-3.00	46	28	44	90
		84	75	65	-2.82	57	33	70	50
65	1	72	103	74	-.54	74	73	75	65
		82	92	76	.07	84	96	105	50

9	10	11	12	13	14	15	16	17	18	19
53	68	57	102	48	62	24	1.4	1.3	1.7	1.0
66	72	72	79	73	85	67				
44	68	57	94	61	51	55	1.1	1.0	1.1	1.0
66	58	49	75	40	53	58				
44	55	57	94	61	57	57	1.3	1.4	1.5	1.4
63	68	57	102	82	85	69				
70	76	64	84	52	49	74	1.9	3.6	1.3	2.0
87	108	57	102	73	65	66				
66	61	88	58	90	77	70	1.2	1.4	1.5	1.1
87	72	64	55	82	85	77				
56	68	76	79	82	53	48	1.5	1.7	1.1	1.4
66	72	57	88	69	53	56				
73	81	83	75	78	71	53	1.6	1.5	1.5	1.5
70	72	83	71	86	106	66				
63	64	49	71	44	51	67	1.2	1.2	1.3	1.0
56	64	79	50	86	71	55				
47	40	57	67	48	53	53	1.0	1.1	1.2	1.0
50	68	34	88	44	65	52				
50	68	53	55	65	53	72	1.3	1.1	1.7	1.0
53	88	72	61	86	60	44				
73	68	107	75	82	81	62	1.7	1.7	1.6	1.7
92	76	107	71	78	81	70				
59	64	64	61	56	77	36	1.8	2.0	1.6	1.7
56	88	53	102	56	53	60				
44	58	72	71	61	55	58	1.0	1.0	1.0	1.0
53	64	46	64	56	60	59				
63	52	93	75	78	55	77	1.9	2.3	1.6	1.2
70	55	107	64	65	62	69				
66	58	49	67	69	53	73	1.3	1.4	1.2	1.1
70	68	93	79	86	85	64				
59	68	72	55	82	55	60	1.6	1.7	1.4	1.6
82	72	93	75	82	74	71				
82	81	107	71	82	55	31	1.6	1.8	1.6	1.6
78	72	79	102	52	51	62				
42	47	64	41	48	53	75	1.3	1.4	1.3	1.0
59	58	79	47	61	51	49				
63	76	107	73	90	62	45	1.6	1.8	1.7	1.6
73	76	61	102	94	102	56				

Group IV: WIC plus PLDK

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
1	1	76	94	72	-.29	76	69	44	70
		85	108	92	.52	90	96	94	88
2	1	88	81	73	-2.47	69	51	75	70
		97	76	76	-.91	82	73	87	76
3	2	68	95	65	-1.90	58	33	75	60
		77	83	65	-1.91	65	37	53	65
4	2	73	90	66	-.53	67	51	70	55
		82	89	74	-.11	82	69	80	70
5	1	82	72	61	-3.00	52	28	70	65
		91	69	65	-3.00	65	46	94	76
6	2	72	82	60	.66	77	73	80	104
		81	88	72	-.29	80	78	75	104
7	2	77	110	84	.34	88	73	62	65
		84	99	84	.38	88	96	75	50
8	1	79	134	104	2.88	112	105	105	104
		88	120	106	.43	99	96	87	82
9	2	71	81	59	-2.92	52	46	57	60
		80	81	66	-2.18	62	60	57	70
10	1	78	94	74	.27	80	100	66	95
		87	73	66	.07	84	73	105	82
11	2	74	94	70	-.70	66	46	66	60
		83	114	94	-.58	77	51	66	70
12	2	74	97	72	.72	77	60	62	65
		83	98	82	-.34	79	73	94	55
13	1	77	88	69	-1.04	70	60	66	64
		86	89	78	.43	89	78	105	82
14	1	71	83	60	-.53	67	37	87	60
		80	87	71	.27	80	64	84	60
15	2	74	87	65	-1.21	63	55	87	46
		76	85	66	-2.09	63	60	57	55
16	2	70	110	76	-.25	69	96	66	60
		78	103	80	-.85	72	91	44	42
17	2	74	142	102	1.95	97	78	80	104
		84	135	112	.83	97	105	80	82
18	1	77	110	84	.70	84	69	87	82
		86	124	106	.43	89	91	75	76
19	1	84	64	56	-3.00	51	46	57	76
		93	71	68	-1.99	72	60	49	88
20	2	79	64	53	-3.00	50	46	75	46
		87	62	57	-3.00	61	33	75	42
21	1	67	88	60	-.40	64	64	57	76
		77	115	88	-.79	72	87	66	76
22	1	75	81	62	-1.48	67	60	70	76
		84	80	69	-1.57	67	69	70	76
23	2	68	75	53	-2.46	55	37	70	46
		78	83	66	-2.78	60	46	66	42

9	10	11	12	13	14	15	16	17	18	19
73	68	107	67	61	106	39	1.7	1.9	1.9	1.6
108	72	107	79	48	90	76				
70	64	68	79	61	81	55	1.2	1.2	1.6	1.3
82	58	107	102	94	74	70				
50	76	49	45	73	65	22	1.2	1.4	1.5	1.0
82	64	83	84	61	55	70				
82	64	76	71	61	74	57	1.9	2.4	1.7	2.0
73	88	76	102	82	95	68				
47	58	49	45	52	53	65	1.3	1.3	1.5	1.1
53	64	72	65	52	62	72				
70	58	53	90	69	65	55	1.8	1.9	1.5	1.4
66	108	79	67	94	68	86				
78	68	107	102	99	106	72	2.1	3.9	2.0	1.8
87	76	107	102	94	85	66				
108	108	90	102	82	77	64	1.9	2.3	1.7	1.8
108	64	107	102	99	87	69				
44	52	50	50	56	55	64	1.7	1.5	1.5	1.0
70	64	64	45	61	68	51				
70	72	76	58	103	106	40	1.8	1.9	1.7	1.2
73	81	107	102	69	81	72				
66	72	61	102	82	55	65	1.8	2.6	2.0	2.2
87	81	107	102	86	65	62				
87	88	93	88	78	81	59	1.9	2.4	1.9	2.0
92	72	68	102	86	68	60				
73	81	79	102	56	57	52	1.9	2.2	1.6	2.1
82	108	76	102	99	65	68				
63	55	93	102	48	71	59	1.5	1.3	1.5	1.0
82	64	107	102	56	85	68				
47	58	64	64	69	77	68	1.3	1.3	1.5	1.0
66	55	79	58	78	57	75				
73	68	57	102	65	55	64	2.4	2.5	2.8	1.8
73	88	88	102	69	57	67				
78	68	107	102	99	85	60	1.9	2.5	1.9	2.3
87	72	88	102	90	106	64				
78	108	72	84	84	106	66	2.5	2.3	2.5	2.1
92	55	93	102	107	106	64				
47	40	57	45	61	42	57	1.5	1.3	1.8	1.0
70	72	76	71	94	81	71				
34	47	61	61	48	42		1.4	1.2	1.1	1.0
59	72	107	61	56	51	53				
66	68	57	61	69	45	63	1.7	2.0	1.6	1.4
70	72	83	79	69	60	74				
70	81	57	61	48	81	30	1.5	1.2	1.2	1.0
70	50	93	71	48	65	70				
44	58	49	58	73	53	22	1.2	1.3	1.5	1.0
63	72	53	67	78	49	58				

Group IV: WIC plus PLDK (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
24	2	67	92	62	.52	72	96	70	55
		77	88	69	-.85	72	73	49	76
25	2	74	88	66	-.70	66	46	53	35
		83	85	72	-.79	74	55	66	42
26	1	68	90	62	-.99	64	55	75	76
		78	94	74	-.17	77	96	94	82
27	2	71	83	60	-1.04	64	69	53	60
		79	95	76	-.92	71	78	49	46
28	2	70	113	78	.44	75	73	66	76
		77	135	102	.77	85	91	62	70
29	2	75	93	70	-2.22	63	42	66	50
		83	88	74	-1.69	66	46	75	82
30	1	81	96	78	-1.51	67	91	75	46
		89	109	98	-.70	85	96	105	76
31	1	69	102	70	.10	72	69	66	46
		77	113	86	.83	85	64	87	104
32	2	69	95	66	-2.18	45	33	66	42
		77	91	71	-2.29	63	51	49	50
33	1	77	66	53	-3.00	46	37	62	46
		85	74	65	-2.00	63	42	87	55
34	1	75	97	73	-1.91	65	64	62	55
		83	108	90	.65	92	82	87	104
35	2	77	96	74	-.67	73	105	70	76
		85	100	86	.34	88	91	75	104
36	2	76	91	70	-1.66	66	55	53	60
		83	111	92	-.47	78	82	70	65
37	2	80	100	80	-1.10	70	82	70	65
		88	113	100	-.86	83	82	80	65
38	1	73	108	78	.38	74	51	80	60
		81	114	92	.92	97	82	80	104
39	2	73	99	72	-2.12	57	55	75	38
		81	93	76	-1.69	66	60	80	60
40	1	69	94	65	-2.63	54	28	57	30
		77	94	73	-1.04	70	55	87	42
41	1	76	109	82	.39	81	78	94	104
		84	125	104	.29	87	91	105	104
42	2	76	84	65	-2.22	63	69	57	82
		81	90	78	-.29	80	82	87	88
43	2	73	86	64	-2.35	55	46	32	42
		83	85	72	-1.01	72	37	75	55
44	1	69	105	72	-1.04	64	37	66	55
		77	98	76	-.79	72	64	94	55
45	2	73	86	64	-2.18	57	37	75	38
		82	89	74	-1.73	66	60	80	46
46	1	67	95	64	-1.72	60	78	49	55
		78	87	69	-1.48	67	78	66	60

9	10	11	12	13	14	15	16	17	18	19
63	64	72	84	86	65	22				
78	72	79	88	78	62	48	1.4	1.4	1.6	1.0
56	94	68	79	99	71	50				
92	64	79	102	90	68	68	2.0	2.2	1.5	1.3
73	55	64	75	52	60	42				
78	61	76	79	90	60	70	1.3	1.2	1.3	1.0
73	58	72	79	48	62	52				
82	55	68	102	56	65	87	1.3	1.2	1.5	1.0
70	61	57	102	90	90	47				
73	94	107	102	78	90	90	1.7	1.7	1.6	1.8
56	50	46	67	82	106	68				
59	68	64	61	73	71	74	1.3	1.3	1.5	1.0
70	68	64	64	65	68	39				
82	88	88	88	82	74	74	1.6	1.9	1.5	1.6
70	61	93	102	69	65	78				
73	72	107	102	78	81	83	1.3	1.4	1.2	1.1
53	55	93	45	48	70	66				
70	55	79	52	73	77	61	1.2	1.3	1.1	1.0
37	52	31	67	40	40	24				
47	55	64	64	78	81	49	1.3	1.2	1.2	1.0
47	61	64	76	74	62	45				
66	94	107	102	82	65	66	1.5	1.2	1.7	1.3
59	61	93	67	73	68	55				
78	68	107	102	78	71	75	1.2	1.3	1.5	1.0
73	58	107	67	52	68	39				
87	55	107	75	82	77	63	1.3	1.4	1.7	1.3
82	72	93	67	52	45	30				
92	64	107	64	86	106	67	1.5	1.3	1.6	1.4
78	58	93	102	73	77	71				
99	72	107	102	82	106	67	1.7	1.7	1.4	1.4
59	61	38	50	82	55	29				
73	64	79	52	82	55	72	1.3	1.2	1.6	1.7
63	94	42	75	48	46	28				
87	72	107	75	73	57	66	1.1	1.2	1.1	1.3
78	76	107	75	65	55	70				
82	101	76	84	61	85	91	1.6	1.5	1.4	1.2
78	52	61	47	86	55	89				
73	72	79	71	94	81	77	1.4	1.4	1.5	1.1
44	72	68	67	44	65	45				
63	108	107	67	78	68	77	1.2	1.4	1.3	1.0
66	68	76	75	52	71	67				
82	72	68	88	61	74	80	1.6	1.6	1.4	1.4
53	61	53	84	48	53	56				
63	58	79	102	56	53	68	1.3	1.3	1.3	1.0
59	52	61	61	56	62	33				
70	55	57	102	86	53	63	1.0	1.0	1.2	1.0

Group IV: WIC plus PLDK (cont.)

Subject / Variables	Sex	1	2	3	4	5	6	7	8
47	2	74	97	72	-.99	64	55	87	65
		81	90	74	-.16	81	69	75	82
48	2	77	130	98	-.73	72	46	94	60
		85	118	100	1.01	98	114	87	70
49	2	73	80	60	-1.72	60	55	49	65
		82	72	61	-2.14	62	51	57	60
50	2	63	75	58	-2.66	60	55	53	72
		84	76	66	-1.19	70	69	80	55
51	2	77	77	61	-1.66	66	60	49	76
		85	80	70	-1.06	72	87	49	60
52	2	79	79	64	-3.00	56	42	36	65
		88	77	70	-2.53	68	55	75	55
53	2	74	78	59	-3.00	57	42	57	42
		83	72	62	-1.33	69	55	62	55
54	2	85	73	64	-3.00	49	51	40	46
		81	77	64	-1.91	64	55	70	50
55	2	72	85	62	-2.81	52	60	53	76
		81	78	65	-2.18	62	60	66	46
56	1	71	69	51	-2.69	53	37	62	55
		80	72	60	-2.35	62	55	53	60
57	1	71	88	63	.27	73	82	75	82
		80	116	92	.89	86	87	87	82
58	2	72	83	61	-2.01	58	51	32	65
		81	85	70	-.97	72	73	66	55
59	2	77	96	74	.39	81	96	80	55
		87	90	80	-1.02	81	55	62	70
60	1	67	83	57	-1.90	52	28	94	76
		78	80	62	-2.29	63	28	80	65
61	2	77	81	64	-2.66	60	55	53	38
		86	77	68	-.65	76	60	105	42
62	2	79	93	74	.20	80	96	80	88
		88	99	88	-.54	86	105	80	82
63	1	78	89	70	-2.04	64	60	75	50
		87	86	76	-.65	85	78	70	60
64	2	74	82	62	-1.04	64	46	75	65
		83	90	76	-1.15	71	69	66	55
65	2	72	79	58	-1.21	63	46	70	50
		81	93	76	-.61	76	51	75	76
66	2	75	96	72	-.79	72	69	105	60
		84	84	72	-.61	76	91	66	65
67	2	72	103	74	1.46	84	82	57	104
		81	104	84	-1.33	69	82	49	76
68	2	78	91	72	-1.97	64	64	75	50
		88	96	86	-1.24	79	82	75	50
69	1	76	85	66	-2.53	61	69	53	42
		85	103	88	-.02	83	96	62	82

9	10	11	12	13	14	15	16	17	18	19
53	76	57	79	48	65	63				
73	81	107	102	73	71	68	1.7	1.5	1.0	1.1
99	88	68	79	65	71	68				
82	108	107	102	94	65	72	2.1	1.8	1.6	1.8
50	58	61	67	78	55	58				
63	72	57	61	86	55	73	1.5	1.4	1.4	1.0
50	58	61	102	56	49	59				
70	68	68	67	56	106	67	1.3	1.2	1.4	1.0
63	64	72	67	65	81	60				
73	55	93	84	73	77	69	1.4	1.7	1.3	1.2
47	108	27	84	52	74	23				
66	76	49	102	65	74	62	1.5	2.2	1.4	1.0
44	64	53	102	39	57	54				
66	64	68	102	73	55	74	1.1	1.0	1.7	1.0
39	50	57	45	61	53	37				
59	61	88	52	56	81	75	1.3	1.2	1.2	1.0
42	47	53	52	52	49	30				
66	72	76	52	61	57	64	1.2	1.4	1.1	1.0
44	47	64	64	52	51	29				
63	58	61	67	56	77	64	1.0	1.4	1.4	1.0
73	64	83	79	86	55	51				
78	72	107	64	99	74	78	1.7	1.4	1.4	1.2
53	64	76	64	69	51	85				
70	88	107	71	48	65	82	1.2	1.2	1.4	1.0
87	108	79	102	69	60	55				
92	81	107	102	82	95	68	1.9	1.9	1.3	1.2
47	58	64	43	31	46	36				
56	76	83	52	86	49	73	1.4	1.5	1.4	1.0
66	64	49	61	86	62	55				
73	64	107	64	86	106	72	1.4	1.4	1.5	1.0
87	61	76	75	71	71	40				
78	68	76	88	90	108	75	1.7	1.8	1.6	1.0
59	68	42	102	48	62	14				
73	88	93	102	73	106	80	1.8	1.9	1.8	2.0
59	72	68	75	69	53	79				
78	72	107	102	56	46	65	1.5	1.4	1.5	1.0
50	61	107	58	69	62	52				
63	61	93	102	99	81	80	1.6	1.5	1.7	1.3
66	61	107	71	99	51	46				
82	72	79	71	73	90	82	1.5	1.3	1.5	1.2
92	108	88	102	69	60	53				
73	61	83	88	78	51	77	2.4	2.4	2.2	1.7
59	58	68	84	56	65	25				
78	68	107	94	78	95	77	1.6	1.6	1.7	1.8
59	64	64	61	56	71	58				
87	88	93	64	90	106	70	1.4	1.3	1.3	1.7

Group IV: WIC plus PLDK (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
70	2	74	79	60	-1.72	66	46	44	46
		82	97	80	-.61	78	82	62	55
71	2	71	86	62	-1.90	58	28	70	38
		80	109	87	.77	85	78	75	76
72	1	69	82	58	-2.07	57	55	62	30
		79	89	83	-1.66	66	33	70	38
73	1	70	92	65	-1.85	65	60	70	65
		80	95	77	.14	79	73	105	76
74	2	81	70	59	-2.95	55	42	44	70
		90	73	68	-3.00	59	55	53	60
75	1	74	79	60	-.99	64	64	49	65
		81	89	73	-1.78	65	51	53	60
76	2	67	85	58	-3.00	49	37	44	50
		77	77	61	-3.00	54	42	62	38
77	2	73	70	53	-2.86	52	42	62	30
		82	86	72	-.97	72	60	70	55
78	2	72	83	61	-1.50	61	42	49	46
		81	77	64	-1.48	67	46	53	46
79	2	76	100	76	-.60	73	69	53	70
		86	94	82	-.20	81	96	87	65
80	2	72	86	63	-.70	66	46	75	42
		81	110	89	-1.15	71	55	75	70
81	1	76	87	67	-1.10	70	46	70	76
		85	98	84	-.47	78	60	80	82
82	2	72	100	72	-.87	65	73	80	42
		81	117	94	-.34	80	69	80	88
83	1	75	93	70	-2.16	63	55	57	70
		[illegible]	88	76	-.79	74	37	57	46
84	2	72	72	54	-1.90	58	37	75	70
		81	80	66	-2.09	63	46	62	88
85	2	67	100	67	-2.41	55	28	53	46
		77	93	72	-1.66	66	55	53	65
86	1	76	114	86	-.17	77	60	62	60
		85	103	88	1.15	101	73	94	65
87	2	71	91	65	-.93	65	37	75	50
		80	90	73	-.29	76	55	75	65
88	1	72	76	56	-2.46	55	55	57	50
		82	78	66	-2.09	63	55	62	55
89	1	74	102	75	-.87	65	73	62	46
		84	112	94	-.02	83	87	62	76
90	2	72	97	70	-.99	64	37	49	55
		82	84	70	-.92	73	46	57	65
91	2	70	84	60	.04	67	78	57	46
		77	103	79	1.01	87	96	70	76
92	1	70	79	57	-1.44	62	40	80	88
		79	78	63	-.79	72	55	94	95

Group IV: WIC plus PLDK (cont.)

Subject / Variables	Sex	1	2	3	4	5	6	7	8
93	1	78	72	58	-3.00	55	64	49	55
		87	70	63	-1.54	67	64	80	60
94	1	72	80	59	-1.50	61	42	66	60
		81	78	65	-1.19	70	69	70	55
95	2	70	86	61	-2.29	56	33	44	50
		79	80	65	.14	79	51	75	55
96	1	73	97	71	-.23	76	69	80	82
		80	89	72	-.92	73	60	70	60
97	2	70	91	64	-1.27	63	69	53	55
		80	89	72	-1.16	69	46	57	70
98	1	69	79	56	-1.21	63	37	75	50
		79	83	67	-.54	74	55	49	76
99	1	69	87	61	-2.35	55	28	57	65
		78	86	68	-.73	72	55	66	88
100	1	69	82	58	-2.75	53	37	66	35
		79	79	64	-.98	71	42	80	65
101	1	78	66	54	-3.00	54	28	57	42
		87	69	62	-2.26	70	42	87	42
102	1	78	69	56	-3.00	55	42	75	55
		87	78	70	-2.42	69	46	70	60
103	2	71	110	77	.83	78	37	77	95
		81	119	96	2.01	98	64	70	88
104	2	73	77	58	-3.00	55	37	57	55
		82	74	63	-.88	73	28	80	50
105	1	67	102	68	-.76	66	46	80	50
		77	94	73	.33	81	51	87	82
106	1	68	75	53	-2.63	47	33	62	38
		78	79	63	-3.00	58	28	53	42
107	1	73	64	49	-3.00	52	28	80	42
		82	72	61	-3.00	52	28	70	82
108	1	72	91	66	-.47	68	64	62	70
		82	94	78	.02	84	55	66	60
109	1	77	73	58	-2.10	64	51	53	60
		85	72	65	-1.72	75	46	87	76
110	1	76	96	73	1.57	93	82	105	104
		86	97	84	.38	88	91	105	104
111	1	73	82	61	-2.66	60	28	75	42
		83	89	75	-1.06	72	46	80	50
112	1	68	125	83	-.98	71	69	94	76
		78	119	92	.95	86	78	105	104
113	2	74	100	74	-.64	67	55	70	60
		84	92	78	-.16	81	73	62	70
114	2	71	85	61	-2.58	54	55	66	55
		82	84	70	-1.15	71	55	62	65
115	1	73	77	58	-1.33	62	55	62	76
		83	80	68	-1.42	68	64	94	70

9	10	11	12	13	14	15	16	17	18	19
44	68	53	61	56	46	32	1.3	1.2	1.5	1.0
73	61	76	79	52	62	72				
56	58	79	71	52	60	28	1.3	1.4	1.2	1.4
70	61	107	71	69	62	66				
63	55	57	79	52	55	48	2.2	2.5	1.9	1.7
87	72	107	94	86	71	79				
70	81	68	102	86	65	48	1.7	1.6	1.7	2.1
87	81	83	88	78	60	82				
56	72	61	64	61	68	66	1.9	2.3	1.2	1.4
73	68	79	64	78	90	76				
59	58	46	102	48	53	21	1.5	1.4	1.6	1.3
82	81	107	102	52	51	74				
39	64	88	67	48	46	43	1.3	1.4	1.6	1.0
70	68	107	64	86	62	81				
56	47	34	67	61	60	22	1.7	1.9	1.7	1.4
73	55	107	71	73	71	66				
42	58	46	84	48	62	33	1.4	1.4	1.4	1.0
66	72	72	88	90	77	75				
44	55	53	50	61	60	47	1.7	1.6	1.8	1.4
70	64	107	55	56	81	80				
66	64	72	102	94	95	66	2.9	3.1	2.9	2.4
82	108	107	102	99	106	82				
44	58	49	94	52	46	53	1.6	1.7	1.4	1.7
66	64	107	102	99	81	79				
78	55	72	102	56	46	66	2.5	2.8	1.9	1.8
78	64	107	102	86	57	76				
42	40	53	75	40	38	76	1.5	1.3	1.3	1.0
59	50	88	67	61	62	71				
29	55	53	75	78	49	29	1.3	1.3	1.0	1.0
37	68	64	61	48	31	64				
78	81	107	64	52	55	32	1.4	1.4	1.2	1.7
82	108	107	102	90	77	77				
66	81	49	55	90	68	27	1.3	1.3	1.3	1.0
73	68	68	67	90	106	34				
87	108	88	102	82	71	69	1.5	1.8	1.3	1.4
82	81	68	102	94	77	66				
63	76	53	61	65	68	22	1.6	1.4	1.3	1.5
78	108	72	71	82	68	60				
78	101	68	71	48	60	72	2.7	3.6	2.1	1.8
82	94	76	102	94	57	65				
66	81	68	55	69	77	69	1.7	1.7	1.7	1.7
82	64	107	94	82	90	81				
53	61	53	52	44	46	38	1.6	1.5	1.5	1.7
70	64	107	64	94	68	68				
50	68	72	45	82	62	62	1.4	1.1	1.2	1.0
70	76	61	64	78	57	64				

Group IV: WIC plus PLDK (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
116	1	73	79	59	-3.00	46	33	44	46
		83	57	50	-2.09	63	55	75	95
117	2	76	91	68	-1.84	59	62	105	55
		84	86	74	.20	86	73	70	70
118	1	76	81	63	-3.00	48	33	62	42
		86	73	65	-1.19	70	64	87	88
119	1	72	74	55	-3.00	56	33	57	46
		82	73	62	-1.60	67	42	75	55
120	1	76	93	71	-3.00	55	51	80	76
		86	82	72	-1.01	72	55	49	65
121	2	75	75	58	-1.97	64	55	70	65
		85	74	65	-2.23	62	55	70	50
122	2	73	79	59	-2.78	60	64	66	70
		83	83	72	-1.66	66	46	87	55
123	2	76	68	54	-3.00	52	46	70	50
		86	77	68	-1.28	69	46	87	95
124	1	75	84	64	-2.97	58	51	62	60
		85	82	71	-1.19	70	82	53	70
125	1	75	103	77	-.11	77	60	70	76
		85	113	96	.11	85	109	70	82
126	1	77	96	74	-1.60	67	37	70	82
		87	88	78	-1.06	72	60	66	65
127	1	71	92	66	-3.00	49	55	44	50
		81	89	73	-1.69	66	51	57	65
128	2	69	77	55	-3.00	34	28	49	33
		77	86	67	-3.00	54	28	40	46
129	2	72	69	52	-3.00	56	33	49	50
		83	85	72	-.70	75	55	94	50
130	1	75	85	65	-1.78	59	42	62	65
		83	93	78	-.65	76	55	62	65
131	2	70	92	65	.52	72	55	75	65
		77	104	80	-.54	74	55	80	50
132	1	70	87	62	-.08	71	64	94	70
		80	105	84	.14	79	73	70	95

Group V: SCRP only

1	1	78	80	64	-2.85	59	60	44	55
		86	84	74	-1.10	71	82	105	88

9	10	11	12	13	14	15	16	17	18	19
67	61	31	43	52	53	39	1.3	1.7	1.4	1.4
70	68	57	55	63	46	35				
67	81	64	50	56	51	61	1.8	1.8	1.3	1.8
82	101	93	102	94	95	64				
67	61	42	43	44	51	21	1.7	1.5	1.2	1.6
70	76	42	86	86	60	49				
50	64	83	47	61	55	60	1.3	1.2	1.1	1.0
63	81	83	102	69	60	70				
67	53	49	55	56	44	35	1.1	1.2	1.2	1.1
66	76	93	102	63	63	49				
67	81	68	67	73	60	70	1.2	1.4	1.2	1.0
63	58	107	58	44	57	58				
56	60	68	102	56	60		1.1	1.3	1.1	1.0
70	72	79	61	69	62	69				
56	72	57	50	48	31	63	1.4	1.3	1.6	1.3
58	64	72	71	86	68	65				
63	72	49	50	65	55	48	1.8	2.4	1.5	2.2
78	101	83	75	56	55	71				
92	108	64	102	69	58	64	3.2	3.9	2.7	2.1
87	88	88	102	90	62	74				
63	81	88	67	73	53	45	2.0	2.4	1.8	2.2
87	81	107	61	69	60	50				
44	64	31	43	56	51	73	1.6	1.5	1.3	1.0
66	76	83	84	44	63	70				
32	47	27	33	52	29	19	1.2	1.3	1.2	1.1
53	88	57	58	48	62	47				
44	55	49	61	78	74	53	1.4	1.4	1.5	1.3
87	64	107	102	73	55	50				
50	72	68	55	61	57	19	1.2	1.2	1.2	1.0
87	64	93	102	94	63	27				
73	72	83	67	78	68	60	1.7	2.1	1.2	1.8
92	76	93	102	90	51	68				
78	72	107	50	52	74	81	1.0	1.2	1.3	1.0
78	68	83	71	82	106	75				

63	52	79	61	61	55	51	1.1	1.3	1.3	1.0
59	58	76	50	65	95	51				

Group V: SCRP only (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
2	1	78	96	75	-2.22	63	82	80	70
		86	84	74	-1.28	69	82	87	82
3	2	70	79	57	-3.00	47	55	36	42
		78	73	59	-3.00	47	28	62	38
4	1	76	77	60	-2.83	59	82	75	38
		87	86	76	-2.37	68	87	73	50
5	2	77	110	84	-1.44	68	78	105	70
		85	108	92	-.11	82	78	87	70
6	1	77	77	61	-3.00	55	55	40	76
		85	75	66	-1.10	71	69	87	76
7	1	73	71	55	-2.97	58	51	57	33
		83	80	68	-2.50	59	64	94	46
8	1	81	89	73	-1.06	72	55	66	55
		89	95	86	-1.83	74	55	70	82
9	1	75	82	63	-2.04	64	33	75	65
		83	81	69	-1.42	68	55	73	50
10	2	78	91	72	-1.10	70	51	70	60
		86	97	84	.25	86	78	105	70
11	1	70	92	77	-1.61	60	73	44	46
		78	105	82	-.04	78	100	53	70
12	1	69	74	53	-.81	66	60	57	50
		79	79	64	-1.41	68	28	80	50
13	2	77	98	76	-1.23	69	60	62	55
		84	117	98	.47	90	60	105	95
14	1	75	96	72	-1.79	66	42	87	65
		84	112	94	-.74	75	37	87	82
15	1	80	74	61	-3.00	52	42	66	30
		88	75	68	-2.10	72	55	75	104
16	1	71	77	56	-2.46	55	46	57	46
		80	86	70	-2.53	61	55	80	60
17	2	79	91	73	-1.60	67	46	80	35
		86	99	86	-.91	82	91	53	104
18	1	73	126	90	-.17	77	73	80	55
		83	124	102	1.42	107	100	105	104
19	2	74	79	60	-.64	67	60	70	76
		82	80	67	-.88	73	69	70	60
20	2	76	87	67	-2.78	60	42	80	70
		83	75	64	-1.69	66	46	70	42
21	1	77	80	63	-2.66	60	28	80	42
		87	81	72	-1.46	68	64	105	70
22	1	75	60	48	-3.00	43	28	32	30
		85	63	56	-2.68	58	33	70	46
23	1	73	86	64	-2.12	57	51	44	82
		80	86	70	-1.37	69	51	57	104
24	1	77	88	69	-1.91	65	73	70	60
		84	89	76	-1.24	70	69	75	70

9	10	11	12	13	14	15	16	17	18	19
59	50	61	61	73	51	62				
66	76	88	64	52	53	66	1.4	1.5	1.7	1.2
42	50	61	43	60	53	60				
56	44	57	52	52	35	34	1.0	1.0	1.2	1.0
63	52	42	67	56	57	58				
88	68	57	75	61	68	65	1.2	1.2	1.5	1.0
59	58	76	71	86	46	63				
73	81	107	75	99	77	43	1.8	1.6	1.5	1.6
42	55	57	61	61	55	32				
70	76	72	71	73	62	57	1.0	1.2	1.2	1.0
50	47	69	64	82	85	48				
50	64	53	61	56	53	40	1.1	1.2	1.5	1.1
63	76	64	79	78	106	38				
87	76	64	102	90	60	39	1.9	1.6	1.7	1.9
47	76	72	67	94	55	58				
73	72	76	67	82	65	36	1.7	1.8	1.6	1.7
70	76	93	88	56	68	62				
92	81	107	84	82	95	66	2.2	2.2	1.3	1.4
66	44	46	79	56	81	31				
82	61	83	102	111	53	61	1.3	1.5	1.4	1.1
47	58	68	88	69	95	39				
66	64	72	94	82	74	68	1.4	1.2	1.6	1.2
82	76	68	102	61	62	39				
70	72	107	102	93	77	52	1.6	2.2	1.6	1.7
92	81	53	50	82	57	53				
82	107	79	79	56	74	74	2.0	1.8	2.0	1.4
59	50	79	47	65	53	62				
59	58	72	67	94	81	69	1.3	1.2	1.0	1.0
47	55	53	71	69	46	36				
47	72	57	67	73	49	66	1.3	1.1	1.5	1.0
78	88	49	75	94	62	62				
66	58	83	102	94	106	70	1.7	1.9	1.7	1.4
82	76	76	102	61	71	72				
92	64	107	102	94	81	69	1.8	2.0	1.1	1.6
53	55	61	102	73	55	59				
70	72	57	102	78	74	66	1.5	1.5	1.3	1.2
47	50	53	84	48	65	32				
63	76	72	75	73	68	64	1.4	1.2	1.3	1.0
66	68	64	50	65	74	32				
73	61	64	64	69	62	67	1.4	1.6	1.2	1.0
34	50	38	58	52	53	45				
56	52	68	84	48	53	54	1.0	1.0	1.0	1.0
47	50	64	61	69	53	60				
53	61	107	55	78	77	62	1.3	1.3	1.6	1.0
56	58	27	102	40	74	57				
63	58	42	102	82	74	54	1.0	1.2	1.3	1.0

Group V: SCRP only (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
25	1	79	117	88	1.64	93	82	105	104
		86	116	100	-.11	91	72	57	95
26	1	68	117	78	-.01	67	64	49	82
		77	97	75	-.67	73	73	80	95
27	2	76	85	66	-1.97	64	37	70	46
		85	88	76	-1.33	69	46	62	70
28	1	73	120	86	.72	77	91	75	76
		82	115	94	-.65	85	105	105	65
29	1	70	103	72	-1.61	60	42	66	38
		78	108	86	.08	79	64	87	70
30	2	78	86	68	-1.85	65	51	49	46
		86	84	74	-1.82	65	60	53	46
31	1	75	87	66	-3.00	54	37	36	46
		84	84	72	-1.73	66	51	75	60
32	2	75	116	86	.58	83	87	94	95
		82	126	102	.88	96	96	75	104
33	1	73	80	60	-2.29	56	28	80	80
		82	69	59	-2.14	62	33	70	65
34	2	73	99	72	-1.84	59	42	80	50
		80	93	75	-1.04	70	60	87	55
35	2	80	101	81	-1.78	65	55	87	60
		87	90	80	-1.99	72	60	62	60
36	2	73	88	65	-1.38	62	37	62	88
		80	89	72	.27	80	64	75	76
37	2	73	94	69	-1.04	64	42	62	35
		81	85	70	-.85	72	64	57	42
38	2	69	105	72	-1.10	64	46	53	50
		76	97	74	-.23	76	73	80	65
39	1	76	72	58	-2.91	59	33	70	76
		85	69	61	-1.01	72	55	87	50
40	1	81	76	63	-2.10	64	51	53	46
		88	84	76	-1.51	77	78	80	60
41	2	71	86	62	-2.69	53	28	57	60
		80	86	70	-.54	76	64	62	70
42	1	71	81	59	-1.33	62	69	53	42
		79	93	74	-1.35	68	64	66	50
43	2	69	79	56	-1.10	64	33	57	55
		79	82	66	-1.66	66	55	49	55
44	1	76	103	78	-2.35	62	28	80	70
		83	95	80	-1.19	70	33	80	76
45	1	71	91	65	-1.10	64	51	94	50
		80	94	76	.20	80	60	87	70
46	2	72	119	84	.27	73	78	57	104
		79	123	96	.33	81	73	62	82
47	2	71	102	72	.32	74	78	70	70
		81	111	90	-.16	81	91	70	104

9	10	11	12	13	14	15	16	17	18	19
108	64	79	102	86	77	42	3.2	2.8	2.7	2.2
72	68	107	102	82	106	68				
59	58	107	64	65	55	70	2.4	2.8	2.5	1.6
78	81	76	71	69	57	71				
59	61	76	75	90	62	72	1.4	1.4	1.5	1.8
78	81	72	75	90	57	69				
70	76	107	71	69	68	83	2.7	3.1	2.3	2.8
82	76	107	102	73	68	82				
56	61	57	102	52	65	50	2.5	2.8	2.7	2.0
87	108	83	102	52	74	67				
59	64	61	102	73	68	78	1.8	2.8	1.9	1.5
78	101	69	84	56	62	67				
50	72	61	52	69	53	82	2.0	2.5	1.7	2.2
78	72	76	61	65	57	76				
82	81	76	75	82	90	68	3.2	3.1	2.8	2.8
87	88	107	84	111	90	67				
50	55	57	58	44	57	71	1.5	1.5	1.3	1.2
59	61	53	67	86	62	61				
56	64	72	55	52	55	58	2.5	2.6	2.0	1.3
66	88	93	64	86	55	66				
59	50	79	61	99	55	67	2.4	2.2	2.2	1.3
87	72	68	75	103	71	70				
63	64	81	41	86	53	29	2.7	3.1	3.2	1.7
87	68	88	75	86	106	60				
82	52	57	106	86	62	69	2.9	2.8	1.9	1.4
73	64	59	106	82	71	67				
59	61	61	102	90	57	54	2.9	3.1	2.7	2.1
78	76	72	88	94	68	68				
47	55	57	58	56	74	61	1.3	1.2	1.5	1.0
56	88	64	61	107	90	76				
56	81	61	64	48	106	38	2.1	3.6	1.8	1.7
70	81	64	79	78	106	43				
47	52	88	58	48	44	69	1.6	2.1	1.7	1.2
87	76	107	84	52	68	69				
59	64	79	67	73	53	73	1.9	3.6	1.8	1.8
78	64	79	71	65	74	55				
53	64	46	71	91	106	83	2.1	1.9	1.6	1.5
63	68	57	84	90	74	27				
63	64	72	58	56	65	70	1.9	2.4	2.1	2.0
80	94	68	75	73	65	60				
63	55	93	67	48	60	75	2.5	3.6	1.9	1.8
92	81	107	88	78	71	78				
92	64	88	84	73	51	74	3.2	3.9	2.9	3.2
108	68	76	102	90	68	66				
63	72	83	88	69	77	92	3.2	3.9	2.2	2.2
70	72	79	67	82	106	92				

Group V: SCRP only (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
48	1	79	93	74	-1.54	67	82	73	42
		87	90	80	-2.04	72	73	105	65

Group VI: SCRP plus PLDK

1	2	67	88	60	-1.37	57	42	62	55
		77	118	90	-.67	73	33	62	65
2	1	87	86	76	-1.77	74	51	87	70
		95	99	96	-.86	83	60	80	95
3	2	69	90	63	-.93	65	73	62	95
		79	93	74	-1.97	64	60	70	35
4	2	71	89	64	.32	74	78	70	104
		80	108	86	-.74	75	51	70	50
5	2	78	104	81	-.85	72	64	75	50
		85	100	86	.02	84	87	80	70
6	2	92	69	66	-3.00	59	42	53	46
		99	87	88	-.91	82	69	80	55
7	2	72	88	64	-.59	67	60	75	82
		81	101	82	-1.19	70	51	80	38
8	1	82	86	72	-2.09	63	51	70	55
		89	93	84	-.43	87	64	105	70
9	1	74	91	68	-.53	67	46	75	50
		81	104	84	-.65	76	69	75	65
10	1	89	88	80	-2.47	69	78	87	46
		96	96	94	-.38	88	100	105	70
11	2	81	77	64	-1.91	64	37	87	35
		88	87	78	-1.56	76	60	80	50
12	1	82	94	78	-.20	81	82	75	76
		89	105	94	-.43	88	82	94	82
13	2	76	94	72	-1.41	68	42	75	76
		86	99	86	.43	89	73	94	95
14	1	73	102	74	.49	75	64	66	65
		82	110	90	.92	97	91	94	95
15	1	79	104	81	-.73	72	69	105	46
		86	109	94	-.02	83	87	87	82
16	1	83	88	74	-2.05	63	55	70	46
		90	96	88	-2.15	71	69	75	82
17	1	72	105	75	-.93	65	37	70	76
		81	122	98	.74	93	78	80	104

9	10	11	12	13	14	15	16	17	18	19
63	52	81	67	61	74	57				
82	64	68	64	99	57	62	1.8	2.1	1.6	1.4
70	64	49	50	65	51	30				
66	72	83	102	99	77	64	1.9	2.4	1.8	1.4
87	61	107	58	73	74	64				
99	76	83	71	94	106	75	1.8	1.6	1.7	1.6
53	61	107	55	61	57	69				
73	76	107	55	65	57	73	1.1	1.3	1.5	1.0
70	72	107	47	99	62	50				
87	108	107	61	86	65	85	1.4	1.8	1.9	1.1
78	94	79	79	65	68	64				
82	68	107	88	82	106	82	1.8	1.9	1.9	1.8
66	68	72	67	48	57	52				
70	61	107	102	107	90	70	1.7	2.3	1.4	1.6
59	58	72	58	99	60	42				
92	68	107	84	65	62	68	1.6	2.5	1.6	1.3
82	64	53	64	52	65	65				
87	72	107	79	90	106	66	1.8	1.8	1.6	1.0
73	88	93	61	56	68	34				
87	108	79	67	90	60	83	1.9	2.5	1.5	1.4
73	81	58	67	78	62	64				
82	64	83	102	99	85	71	1.6	1.5	1.6	1.6
66	64	61	61	82	81	50				
78	81	79	75	99	85	51	1.8	1.7	1.7	1.0
82	55	107	67	94	85	69				
87	64	107	79	90	106	83	1.7	1.7	1.7	1.5
63	95	68	61	78	68	42				
82	88	107	88	82	106	65	1.9	2.0	1.7	2.0
63	55	68	102	82	106	56				
99	72	107	102	86	85	66	1.6	1.8	1.6	1.0
99	61	68	61	86	77	64				
87	58	83	94	86	95	82	1.4	1.8	1.7	1.7
47	72	72	47	73	85	69				
78	76	93	45	73	71	80	1.7	1.4	1.5	1.0
70	88	72	67	65	51	56				
108	76	107	102	86	81	83	1.7	1.8	1.6	1.5

Group VI: SCRP plus PLDK (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
18	2	98	41	43	-3.00	38	33	44	30
		106	54	59	-3.00	44	42	53	38
19	1	78	111	86	-.36	75	60	80	95
		85	93	80	.97	97	96	105	88
20	1	76	83	64	-3.00	53	28	53	42
		86	94	82	-.47	78	69	70	70
21	2	88	75	68	-3.00	58	46	32	50
		95	82	70	-2.15	71	55	87	50
22	2	72	82	60	-1.33	62	55	57	65
		82	78	66	-2.05	63	42	66	38
23	1	77	86	67	-2.47	62	60	80	50
		85	88	76	-.07	82	64	75	42
24	2	73	76	55	-.93	65	46	80	60
		82	99	82	-1.28	69	33	80	35
25	1	80	86	70	-2.47	62	60	80	76
		90	89	82	.39	81	69	75	82
26	1	76	88	68	-2.41	62	60	75	50
		86	119	102	.38	88	73	94	76
27	1	78	86	68	-2.16	63	64	87	70
		88	96	86	-1.18	80	69	94	65
28	2	73	88	65	-3.00	55	46	49	70
		83	88	75	-.97	72	55	94	60
29	1	79	106	84	-1.29	69	60	80	104
		89	102	92	-1.83	74	69	87	76
30	2	77	86	67	-.85	72	78	57	104
		85	103	88	.38	88	69	62	76
31	1	69	89	62	-2.92	52	46	32	55
		79	93	74	-2.04	64	60	44	46
32	2	75	72	56	-3.00	49	42	57	35
		83	68	59	-2.91	56	28	75	38
33	1	74	106	78	-1.23	69	60	105	76
		84	107	90	-.11	82	91	70	104
34	2	78	65	53	-3.00	49	42	66	38
		88	75	68	-3.00	61	46	40	46
35	1	69	100	69	.27	73	91	80	88
		79	106	84	-.36	75	78	62	65
36	2	77	96	74	-1.73	66	51	62	50
		85	105	90	.20	86	78	70	60
37	1	77	115	88	.83	85	82	87	104
		87	110	96	.32	97	96	87	104
38	1	75	78	60	-1.55	61	42	62	65
		82	92	76	-1.69	66	69	75	50
39	1	73	91	67	-1.16	63	51	53	42
		81	90	74	-.65	76	51	70	38
40	1	69	99	68	-.19	70	64	105	60
		78	105	82	-.85	72	73	87	95

9	10	11	12	13	14	15	16	17	18	19
24	50	38	30	48	49	20				
29	55	49	30	61	53	27	1.0	1.0	1.0	1.0
82	88	107	75	56	57	65				
73	81	107	102	99	85	75	1.9	2.2	1.6	2.0
47	72	64	61	56	51	42				
78	64	93	71	82	106	75	1.4	1.5	1.6	2.1
59	64	76	58	78	55	66				
66	76	107	64	65	71	68	1.6	1.8	1.7	1.8
53	72	76	64	61	57	24				
70	64	107	67	65	46	71	1.6	1.5	1.6	1.0
73	61	57	55	82	60	59				
87	68	107	102	94	85	69	1.3	1.9	1.5	1.7
59	58	83	71	82	53	28				
78	58	72	88	103	81	46	1.6	1.1	1.6	1.1
63	68	49	58	78	42	40				
87	76	107	75	82	62	74	1.5	1.5	1.6	1.7
63	58	68	71	52	57	71				
73	76	107	84	78	106	77	1.8	2.5	1.7	2.2
56	64	76	55	65	51	53				
82	64	107	67	78	77	71	1.7	1.7	1.5	2.2
50	55	61	55	56	56	32				
73	76	88	67	86	65	58	1.6	1.8	1.6	1.2
66	61	76	61	94	51	24				
99	72	76	64	82	62	77	1.9	2.4	1.7	2.2
73	64	88	71	65	60	59				
78	88	107	102	90	106	72	1.7	2.4	1.3	2.0
44	64	42	50	56	62	51				
53	50	76	58	69	81	71	1.3	1.6	1.1	1.0
50	58	57	41	48	51	34				
59	61	57	43	69	65	63	1.1	1.4	1.5	1.1
78	87	88	58	78	57	34				
92	61	107	58	65	85	79	1.8	2.0	1.7	2.3
50	58	49	50	31	46	14				
66	81	83	50	82	55	58	1.6	1.6	1.6	1.9
73	72	49	50	82	106	47				
87	68	107	61	82	85	65	1.5	1.6	1.7	1.7
59	81	68	75	94	57	54				
73	108	107	102	78	71	79	2.0	2.4	1.6	2.1
87	101	76	61	86	95	60				
92	94	88	102	94	71	87	2.7	2.6	2.0	2.6
47	52	72	64	61	77	63				
73	52	61	84	90	53	80	1.3	1.1	1.2	1.0
73	58	76	71	82	60	57				
82	72	107	102	73	77	72	1.7	1.8	1.6	1.6
78	61	61	58	69	95	46				
78	52	49	94	99	55	59	1.7	1.6	1.2	1.1

Group VI: SCRP plus PLDK (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
41	2	73	96	70	.10	72	87	62	42
		81	101	82	-.11	82	69	57	60
42	2	79	90	72	-2.10	64	33	70	65
		87	110	96	-2.69	67	73	87	60
43	2	72	88	64	-1.78	59	33	94	50
		82	89	74	-1.28	69	55	80	60
44	1	75	84	64	-3.00	55	73	57	42
		85	93	70	-2.82	57	73	66	46
45	2	78	96	75	-.79	72	55	53	55
		88	96	86	-.43	88	78	70	76
46	2	80	79	65	-3.00	58	42	94	42
		87	84	75	-1.56	76	73	105	46
47	2	77	87	68	-2.22	63	51	52	88
		83	90	76	-2.09	63	60	70	38
48	2	70	87	62	-1.33	62	46	75	60
		80	90	73	-.60	73	55	75	65
49	1	75	99	74	-2.85	59	51	0	50
		85	95	82	-1.79	66	42	57	50
50	2	74	88	66	-2.66	60	55	44	50
		84	97	82	-1.28	69	55	53	65
51	1	82	71	53	-1.82	65	73	94	76
		90	82	76	-2.37	69	60	105	70
52	1	72	93	67	-1.38	62	42	70	60
		79	93	74	-.79	72	69	75	88
53	2	73	76	57	.10	72	73	57	76
		80	97	78	-.73	72	60	66	55
54	1	72	79	58	-3.00	45	27	66	46
		80	74	61	-2.04	64	46	62	46
55	2	78	56	47	-3.00	38	28	32	38
		85	63	56	-3.00	52	37	49	33
56	1	71	86	62	-1.04	64	46	53	70
		80	78	64	-1.19	70	55	80	70
57	1	78	87	69	-1.35	68	60	75	70
		87	95	84	.38	88	69	80	104
58	2	74	79	60	-.80	71	64	57	50
		83	83	70	-.38	79	60	70	60
59	2	68	99	67	-1.21	63	60	75	70
		78	108	84	-.67	73	91	75	65
60	2	74	72	55	-3.00	53	28	62	50
		84	75	65	-1.10	72	60	66	55
61	2	69	84	59	-2.58	54	33	62	38
		77	87	68	-1.73	66	51	66	35
62	2	78	72	58	-1.97	64	60	66	42
		88	81	73	-1.77	74	73	80	42
63	1	78	82	65	-2.47	62	46	53	50
		87	90	80	-2.85	73	64	80	65

9	10	11	12	13	14	15	16	17	18	19
78	94	79	58	69	90	63				
87	81	107	67	107	106	69	1.8	1.6	1.7	1.0
73	61	46	64	94	65	63				
63	72	86	58	61	57	70	1.7	1.9	1.5	1.7
53	61	61	55	61	65	69				
66	64	76	88	86	60	77	1.3	1.4	1.6	1.0
56	64	61	45	52	46	44				
63	50	46	52	65	53	69	1.3	1.2	1.6	1.6
70	94	76	102	78	68	76				
87	101	107	94	103	74	53	1.6	1.6	1.7	2.0
59	76	34	55	78	51	34				
82	58	76	71	90	106	56	1.6	1.4	1.6	1.6
56	58	68	71	82	51	51				
73	55	49	64	73	74	69	1.5	1.4	1.6	1.5
44	50	76	75	82	60	63				
73	58	79	102	73	74	68	1.4	1.2	1.0	1.0
70	50	76	75	82	55	60				
73	64	76	94	86	53	70	1.5	1.8	1.5	1.0
70	58	83	61	56	57	65				
82	50	83	88	99	62	83	1.4	1.3	1.6	1.0
59	58	57	75	52	57	61				
66	72	38	88	73	71	74	1.2	1.2	1.7	1.0
59	68	72	61	56	62	61				
73	68	83	61	56	85	81	1.6	1.3	1.5	1.2
63	108	64	75	69	81	56				
82	81	107	71	78	60	71	2.1	2.2	1.7	1.7
37	61	46	37	52	40	53				
59	72	76	45	69	106	65	1.0	1.0	1.1	1.2
34	31	27	58	40	38	54				
39	58	53	58	73	60	27	1.3	1.1	1.1	1.0
53	81	53	67	86	68	61				
66	72	72	64	107	60	60	1.3	1.2	1.3	1.0
66	72	107	67	69	53	58				
78	88	107	79	65	106	68	1.8	1.8	1.8	1.9
70	55	83	102	56	65	65				
82	64	107	102	90	57	91	1.7	1.4	1.6	1.0
73	50	79	75	52	46	59				
87	58	79	64	48	106	77	1.8	1.9	1.6	1.3
66	52	49	58	61	46	47				
56	68	64	102	82	81	64	1.4	1.0	1.5	1.0
47	68	34	102	56	42	64				
63	72	76	102	65	62	77	1.3	1.8	1.6	1.0
56	72	88	94	61	51	62				
73	68	79	75	99	81	68	1.0	1.0	1.5	1.0
70	46	64	75	90	65	33				
78	76	83	102	65	62	52	1.9	2.1	1.3	2.0

Group VI: SCRP plus PLDK (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
64	1	72	86	63	-.99	64	78	66	50
		81	93	76	-1.16	69	87	70	65
65	1	67	100	67	.28	69	51	94	50
		77	110	84	.58	83	78	75	88
66	1	72	99	71	-.02	71	69	62	76
		82	97	80	-.65	76	69	94	50
67	2	71	85	61	-1.33	62	46	57	70
		80	89	72	-1.42	68	55	75	50
68	1	73	67	51	-2.24	50	28	49	50
		82	63	54	-3.00	63	42	70	76
69	1	69	102	70	-.64	67	78	57	70
		79	115	90	-.73	72	78	57	60
70	2	68	102	69	-1.44	62	42	66	33
		78	108	84	.20	80	87	94	46
71	2	79	71	58	.43	71	60	49	46
		76	85	75	-.22	80	73	105	70
72	2	87	86	76	-1.91	65	60	75	42
		94	74	72	-2.26	70	78	49	70
73	1	68	92	63	-1.50	61	51	87	55
		77	91	83	-1.10	70	51	62	70
74	1	71	83	60	-1.95	58	42	66	55
		79	90	72	-2.72	60	37	53	70
75	1	70	78	56	-2.12	57	46	105	38
		79	80	65	-1.91	65	33	80	46
76	1	73	73	55	-3.00	48	42	37	55
		80	86	70	-1.51	67	51	49	70
77	1	67	63	45	-3.00	30	28	32	35
		88	58	54	-3.00	53	37	70	46
78	2	72	83	61	-.64	67	37	80	55
		81	81	67	-.83	74	64	94	70
79	1	69	108	74	1.45	81	46	94	70
		77	115	88	.14	79	87	75	95
80	2	68	89	61	-.81	66	37	75	104
		77	97	75	-1.35	68	51	75	46
81	1	73	93	68	-1.21	63	64	66	65
		81	102	83	-1.15	71	87	75	55
82	2	70	99	69	-.36	69	64	53	55
		79	101	80	-1.04	70	82	70	70
83	1	73	90	66	.05	62	46	75	55
		81	90	74	-.43	78	60	105	104
84	1	74	64	50	-2.24	56	46	62	50
		81	80	66	-1.64	66	64	80	95
85	2	77	84	66	-3.00	53	28	80	35
		85	83	72	-.97	72	64	66	42
86	1	76	65	52	-3.00	48	42	53	42
		86	69	62	-2.18	62	64	49	70

9	10	11	12	13	14	15	16	17	18	19
63	68	61	64	73	60	27				
78	72	57	67	73	65	51	1.4	1.0	1.2	1.0
66	58	107	75	56	81	67				
99	68	107	88	56	62	69	1.8	1.9	1.5	2.0
70	58	107	79	82	62	39				
78	64	107	102	86	55	55	1.6	1.4	1.5	1.6
44	61	93	43	94	65	55				
73	76	93	64	73	57	74	1.9	1.9	1.5	1.1
32	55	42	61	82	49	50				
42	55	79	61	78	68	73	1.4	1.0	1.5	1.0
73	81	76	67	61	51	52				
92	64	64	79	99	68	68	1.8	2.4	1.4	1.0
78	61	61	61	82	65	71				
70	94	76	71	90	106	69	1.9	2.8	1.7	1.2
50	68	49	102	90	106	26				
70	64	107	102	82	106	85	1.5	2.1	1.6	1.0
87	68	64	84	73	44	66				
63	61	93	94	73	65	76	1.7	2.6	1.6	1.4
70	64	53	64	44	60	25				
73	64	107	67	86	65	59	1.8	1.8	1.5	1.0
47	52	68	67	78	51	21				
53	68	64	71	61	57	62	1.4	1.4	1.5	1.0
59	50	46	67	56	53	53				
70	76	79	67	73	57	69	1.1	1.0	1.3	1.0
37	40	31	64	44	68	72				
56	55	107	67	65	60	81	1.3	1.1	1.2	1.0
30	40	38	55	27	29	17				
47	40	57	52	56	65	79	1.1	1.0	1.5	1.0
63	68	107	64	56	68	40				
78	72	72	84	82	65	68	1.6	2.4	1.5	1.4
70	64	107	84	90	106	63				
87	68	88	102	82	57	70	2.5	2.3	2.1	1.1
63	52	61	102	52	60	66				
70	61	88	102	73	60	66	2.4	2.6	1.6	1.0
59	58	49	71	69	65	44				
66	68	58	102	82	65	74	1.7	2.0	1.3	1.5
82	55	79	88	82	65	37				
82	61	64	102	69	53	60	1.6	1.4	1.3	1.0
63	44	49	102	61	51	46				
82	76	64	84	99	60	78	1.4	1.1	1.3	1.5
47	47	79	64	48	57	59				
66	72	57	67	44	65	74	1.4	1.4	1.0	1.0
44	61	38	102	48	42	38				
59	88	68	102	78	68	72	1.4	1.8	1.8	1.8
44	31	53	58	56	49	22				
56	58	53	67	86	57	58	1.2	1.1	1.3	1.0

Group VI: SCRP plus PLDK (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
87	2	70	81	58	.83	78	87	75	95
		80	81	66	-1.15	71	42	62	65
88	2	69	102	70	.32	74	55	87	70
		82	101	83	.38	88	100	87	104
89	2	79	89	71	-.67	73	64	66	88
		87	90	80	-.70	83	69	62	70
90	1	85	77	70	-3.00	58	51	70	50
		95	76	74	-3.00	64	64	66	60
91	1	78	103	80	-2.54	74	82	105	76
		85	98	84	-.47	78	73	75	106
92	2	73	102	74	-.04	78	78	80	107
		82	113	92	-.16	81	69	75	82
93	2	81	119	96	1.19	102	96	105	104
		89	130	116	1.13	112	114	80	104
94	2	94	68	66	-3.00	65	51	75	70
		102	62	66	-2.31	78	64	75	104
95	1	81	96	78	-1.33	69	82	70	88
		89	93	84	-.54	86	73	87	70
96	2	81	78	65	-3.00	53	55	53	38
		89	67	62	-3.00	64	69	75	55
97	2	69	84	59	-.81	66	60	53	82
		77	94	73	-.60	73	78	44	55
98	1	71	97	69	-.36	69	91	87	95
		79	89	71	-.17	77	78	62	65
99	2	71	97	69	-.08	71	78	53	95
		79	93	74	-.27	80	64	87	76
100	1	78	97	76	-1.16	69	78	62	104
		86	84	74	-.74	75	42	87	76
101	2	74	111	81	-.93	65	46	70	60
		82	102	84	-.20	81	82	105	65
102	1	75	104	78	-.73	72	46	105	76
		83	103	86	.11	85	64	80	82

Group VII: Control

1	2	73	65	50	-3.00	49	37	80	46
		81	73	61	-1.87	64	60	75	65
2	2	77	93	72	-2.72	60	46	44	38
		85	75	66	-1.06	72	87	66	65

9	10	11	12	13	14	15	16	17	18	19
63	108	79	88	69	51	66				
63	108	53	88	73	106	65	1.3	1.0	1.6	1.0
53	76	88	30	90	57	70				
73	77	49	102	111	62	76	1.6	1.9	1.6	1.4
70	55	72	102	65	65	66				
82	76	83	102	88	88	68	1.7	1.7	1.4	1.1
56	58	53	52	73	60	60				
63	68	93	58	61	55	69	1.3	1.2	1.5	1.0
63	64	76	71	52	95	56				
82	68	93	67	82	65	66	1.8	2.2	1.6	1.0
56	108	88	52	86	55	51				
70	108	107	67	94	68	75	2.2	3.1	2.0	1.5
87	81	107	102	103	74	74				
99	76	93	102	94	106	83	2.4	2.3	2.0	1.8
56	61	83	61	69	62	69				
78	88	107	52	78	60	68	1.3	1.4	1.6	1.0
82	61	64	71	56	62	47				
92	76	107	79	94	77	69	1.2	1.5	1.7	1.2
53	44	79	45	48	60	68				
59	61	46	50	90	77	78	1.2	1.3	1.4	1.0
56	72	57	102	52	62	69				
70	88	78	102	99	65	72	2.0	2.5	1.6	1.4
66	58	53	75	73	53	41				
82	88	72	102	73	71	69	1.6	1.9	1.6	1.6
63	68	61	79	86	71	66				
87	101	107	79	82	68	69	1.3	1.6	1.5	1.0
59	58	61	84	73	68	70				
82	94	68	61	78	106	74	1.6	1.6	1.6	1.2
73	61	79	64	48	74	73				
82	81	88	79	86	74	82	1.8	2.0	1.7	1.7
82	94	68	102	33	65	56				
87	72	79	88	99	106	53	1.6	1.5	1.3	1.1

42	61	42	43	61	38	66				
47	64	64	58	86	68	26	1.1	1.2	1.5	1.2
66	50	42	102	61	81	67				
78	58	68	94	78	65	58	1.8	1.7	1.2	1.2

Group VII: Control (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
3	2	72	93	67	-1.21	63	37	70	42
		82	81	68	-1.33	69	78	70	65
4	2	72	80	59	-2.86	52	51	49	42
		80	72	60	-2.47	62	51	62	42
5	1	76	71	56	-2.85	59	37	57	38
		85	95	82	-2.14	62	60	87	42
6	1	79	73	60	-1.79	66	33	62	60
		88	82	74	-1.56	76	37	57	60
7	1	79	78	63	-1.97	64	69	57	88
		88	77	70	-3.00	64	33	57	60
8	1	71	74	54	-2.41	55	37	49	65
		79	75	61	-.42	75	69	75	95
9	2	71	88	63	-1.61	60	46	62	55
		81	90	78	-.25	80	64	87	65
10	1	68	85	59	-1.52	55	33	62	55
		78	93	73	-.67	73	55	105	82
11	1	77	70	56	-.73	72	82	94	104
		87	76	68	-3.00	64	55	66	60
12	1	73	86	64	-1.33	62	78	62	46
		81	92	75	-.43	78	87	87	76
13	1	81	76	63	-2.05	63	46	66	60
		88	75	68	-3.00	64	37	66	46
14	1	71	89	64	-.64	67	51	75	60
		81	93	76	-.92	73	105	80	88
15	1	77	83	65	-1.48	67	46	87	65
		87	90	80	-.65	85	60	105	104
16	2	69	95	66	-1.55	61	87	49	46
		88	86	77	-1.16	69	82	53	55
17	1	78	103	80	-.34	79	96	105	35
		88	83	75	-.59	86	114	105	30
18	2	70	91	64	-2.66	60	64	57	35
		77	94	73	.02	78	73	80	42
19	1	77	90	70	-2.04	64	60	66	42
		84	88	75	-.88	73	73	80	60
20	1	68	85	59	-1.44	62	42	57	38
		78	89	70	-.29	76	73	87	50
21	2	74	90	67	-1.23	69	69	70	50
		83	79	67	-.16	81	78	105	55
22	1	73	62	48	-3.00	47	28	57	70
		83	57	50	-3.00	54	42	66	55
23	2	76	117	88	-.42	75	73	80	70
		86	109	94	.79	94	100	105	104
24	2	77	84	66	-3.00	54	60	49	33
		84	76	66	-1.06	72	73	94	46
25	2	78	86	68	-2.97	58	42	53	35
		85	77	67	-1.82	65	30	75	38

9	10	11	12	13	14	15	16	17	18	19
70	68	64	84	40	77	60				
78	72	57	75	78	60	69	1.6	1.6	1.5	1.7
34	52	64	75	61	44	60				
47	40	43	64	82	106	68	1.3	1.2	1.5	1.0
47	61	79	102	44	60	77				
56	55	64	88	69	55	42	1.0	1.3	1.3	1.0
56	58	68	94	65	106	32				
70	76	93	102	99	77	60	1.1	1.4	1.6	1.2
47	68	64	102	52	53	55				
63	72	64	67	90	71	54	1.5	1.1	1.3	1.2
66	47	68	75	40	46	55				
78	68	107	67	73	68	30	1.4	1.4	1.5	1.0
63	47	57	94	69	57	48				
70	81	72	88	99	106	50	1.1	1.4	1.5	1.0
63	64	53	52	65	49	24				
73	76	53	71	99	65	24	1.7	1.6	1.5	1.8
66	58	107	71	56	57	37				
73	64	72	64	48	68	54	1.3	1.2	1.1	1.0
63	68	57	75	44	62	61				
78	64	53	75	90	106	64	1.4	1.5	1.5	1.7
39	101	57	52	73	85	55				
59	76	83	71	52	77	49	1.4	1.4	1.4	1.0
70	61	68	61	90	68	63				
73	68	68	67	78	55	67	1.7	1.9	1.6	1.6
63	64	49	61	78	106	58				
78	61	76	79	94	106	68	1.5	1.2	1.3	1.0
59	58	57	75	56	57	65				
73	81	72	79	69	65	73	1.7	1.8	1.6	1.3
78	94	64	75	94	90	38				
82	108	79	94	82	81	36	1.9	2.4	1.8	1.4
47	72	64	64	61	71	33				
70	101	72	102	82	95	68	1.9	2.0	2.0	1.2
63	81	61	52	65	85	42				
78	88	107	55	73	74	67	1.8	1.5	1.7	1.8
59	64	83	75	52	68	55				
82	64	79	102	82	65	72	1.4	1.4	1.6	1.0
73	101	72	75	52	68	13				
78	64	76	102	99	71	67	1.5	1.7	1.8	1.4
44	50	53	47	48	38	21				
44	48	49	50	61	60	41	1.0	1.1	1.1	1.0
99	64	93	64	56	85	71				
92	108	88	84	111	68	72	2.9	3.1	1.8	2.4
50	64	42	64	56	55	35				
73	76	68	102	69	55	54	1.5	2.5	1.8	1.1
59	76	49	75	52	68	33				
66	64	53	64	90	106	13	1.7	1.9	1.7	1.0

Group VII: Control (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
26	2	71	83	60	-1.10	64	64	66	55
		81	78	65	-1.69	66	73	87	50
27	1	68	77	54	-2.63	54	46	53	55
		77	78	62	-3.00	56	28	57	42
28	1	72	99	71	-.13	70	73	87	70
		81	96	78	.34	86	91	105	65
29	2	70	94	66	-1.72	60	37	66	70
		79	91	73	-.85	72	51	94	95
30	1	78	65	53	-3.00	42	28	32	42
		87	61	56	-3.00	54	37	66	55
31	1	82	84	70	-1.55	67	46	80	82
		89	95	86	.58	83	55	94	95
32	2	81	104	84	-1.19	76	78	66	46
		88	92	82	-1.88	73	87	75	46
33	2	71	93	60	-2.07	57	46	60	42
		80	94	76	-2.46	60	55	57	42
34	1	81	82	68	-2.23	62	42	80	50
		88	77	70	-3.00	57	46	49	50
35	2	73	67	51	-3.00	47	42	36	55
		82	89	74	-2.36	60	69	80	38
36	1	72	76	56	-.81	66	69	80	92
		81	86	71	-1.28	69	69	105	60
37	1	69	77	55	-2.52	54	55	49	65
		78	89	70	-1.35	68	64	87	57
38	2	74	79	60	-1.72	60	60	53	50
		82	94	78	-1.42	68	60	66	70
39	2	73	105	76	-.47	68	69	80	70
		80	105	84	-.43	78	78	57	70
40	1	74	99	73	-1.78	59	37	62	55
		80	86	70	-1.91	64	33	105	42
41	1	67	93	63	-.50	63	46	53	60
		76	103	78	-.60	73	60	80	55
42	2	71	92	66	-1.38	62	33	62	45
		81	85	70	-2.18	62	33	62	38
43	2	68	82	57	-2.78	46	28	36	46
		77	77	61	-3.00	53	28	44	42
44	1	68	100	68	-.64	62	33	75	60
		77	104	80	.45	82	51	105	88
45	2	69	86	60	-1.95	58	55	87	50
		78	90	83	-1.54	67	60	75	46
46	2	74	84	63	-.76	66	60	87	46
		81	89	73	-1.06	72	78	53	50
47	2	69	69	50	-2.46	55	60	36	50
		78	79	63	-3.00	55	69	57	50
48	2	71	99	70	-1.27	63	37	70	60
		80	100	80	-.38	79	82	53	104

9	10	11	12	13	14	15	16	17	18	19
59	108	64	55	69	53	28				
82	81	67	67	44	50	38	1.7	2.4	1.7	1.1
47	61	49	64	69	40	64				
50	81	46	71	56	57	63	1.3	1.4	1.6	1.0
66	88	64	58	65	77	34				
78	108	49	88	107	106	54	1.8	1.9	2.0	1.8
29	58	64	64	48	77	81				
66	58	57	94	69	85	75	1.8	1.8	1.7	1.0
42	47	72	30	27	60	35				
42	72	61	43	65	51	75	1.2	1.2	1.3	1.0
73	68	53	75	52	77	39				
87	81	68	75	103	106	57	1.6	1.6	1.5	1.6
70	68	93	102	61	37	56				
99	68	72	102	65	65	60	1.9	2.2	2.0	1.8
63	55	57	61	65	53	31				
63	68	57	67	69	53	64	1.6	1.5	1.7	1.0
66	94	46	58	56	62	57				
56	72	46	58	78	53	44	1.3	1.3	1.6	1.0
56	44	42	43	44	53	23				
66	55	53	61	65	57	51	1.4	1.4	1.2	1.0
56	68	64	52	52	68	61				
70	72	76	47	65	85	54	1.5	1.6	1.4	1.0
39	52	76	58	44	53	61				
73	64	68	79	69	62	63	1.6	1.7	1.7	1.5
56	64	79	55	65	53	60				
78	68	57	64	90	68	86	1.6	1.9	1.9	1.0
72	68	88	45	65	62	67				
87	64	107	67	82	90	70	1.9	2.3	2.0	1.6
70	50	68	71	44	65	40				
82	58	61	67	73	65	54	1.3	1.3	1.7	1.0
47	55	83	94	65	68	39				
78	68	76	88	90	81	61	1.3	1.3	1.5	1.2
56	88	64	58	103	53	25				
59	72	61	64	82	68	70	2.5	2.8	1.9	2.0
39	64	46	39	52	53	31				
47	68	46	55	90	51	50	1.2	1.5	1.6	1.0
59	52	83	61	78	60	43				
87	68	88	102	86	85	75	2.0	2.3	1.9	2.1
59	52	45	55	65	51	63				
70	76	93	61	69	60	64	1.6	1.7	1.3	1.8
73	55	57	67	78	74	66				
78	64	107	71	69	81	65	1.9	2.4	1.8	2.0
37	50	88	50	73	55	73				
39	61	49	61	52	55	64	1.5	1.4	1.5	1.0
59	58	79	71	69	57	60				
82	81	83	102	86	57	65	1.6	1.6	1.7	1.7

Group VII: Control (cont.)

Subject / Variables

	Sex	1	2	3	4	5	6	7	8
49	1	71	78	57	-2.58	54	28	57	42
		78	83	68	-2.00	63	55	70	55
50	2	68	54	40	-3.00	41	33	62	46
		78	56	47	-3.00	42	28	32	46
51	1	77	86	67	-1.79	66	55	75	95
		86	77	68	-1.06	72	69	87	76
52	2	73	94	69	-2.72	60	33	80	50
		82	86	72	-1.46	68	46	53	38
53	2	72	88	64	-1.61	60	28	49	46
		79	90	72	-1.66	66	51	94	46
54	1	77	64	52	-3.00	52	37	57	50
		86	66	59	-2.14	62	51	87	46
55	2	80	60	51	-3.00	52	28	66	35
		87	67	61	-3.00	62	37	66	42
56	2	81	80	66	-2.41	60	42	87	70
		88	80	72	-3.00	60	46	94	46
57	1	68	85	59	-1.84	59	60	75	55
		78	77	62	-2.10	64	33	62	46
58	1	78	84	67	-1.85	65	60	87	76
		85	98	84	-.83	74	73	57	88
59	1	78	87	69	-1.66	66	55	75	60
		88	87	78	-1.94	73	51	94	60
60	2	75	87	66	-1.23	69	55	80	46
		83	89	75	-.83	74	69	87	55
61	2	78	83	66	-1.79	66	60	66	70
		88	82	74	-2.47	69	73	53	65

9	10	11	12	13	14	15	16	17	18	19
37	52	53	67	82	60	53				
56	72	49	71	52	81	52	1.2	1.2	1.7	1.0
37	52	38	35	44	31	35				
30	52	31	45	78	44	36	1.0	1.1	1.2	1.1
63	61	76	61	69	55	58				
66	64	53	71	99	76	85	1.5	1.2	1.0	1.2
63	76	49	61	56	65	56				
73	88	61	102	78	71	70	1.9	1.9	1.5	1.6
53	61	88	64	90	57	37				
87	68	68	71	69	55	65	1.7	1.6	1.6	1.8
47	52	38	58	61	60	43				
63	64	68	71	56	55	50	1.3	1.4	1.3	1.0
50	55	46	61	56	55	34				
59	28	64	64	73	60	61	1.2	1.2	1.0	1.0
47	76	57	61	61	51	64				
56	61	72	64	48	53	52	1.2	1.3	1.2	1.5
47	55	72	55	61	55	25				
56	81	93	61	78	62	63	1.5	1.5	1.3	1.1
73	61	57	71	64	51	61				
78	64	88	75	86	68	64	1.5	1.5	1.9	1.7
66	52	72	58	78	85	53				
73	72	107	64	78	71	63	1.3	1.4	1.2	1.5
59	88	79	45	94	90	68				
92	68	107	61	82	57	68	1.7	2.0	1.9	2.0
63	50	64	102	48	68	38				
78	64	83	88	65	57	58	1.6	1.4	1.5	1.2